

ANNUAL MEETING NUMBER
SUPPLEMENT TO VOLUME 40, 1959

THE *Southwestern*
SOCIAL SCIENCE QUARTERLY

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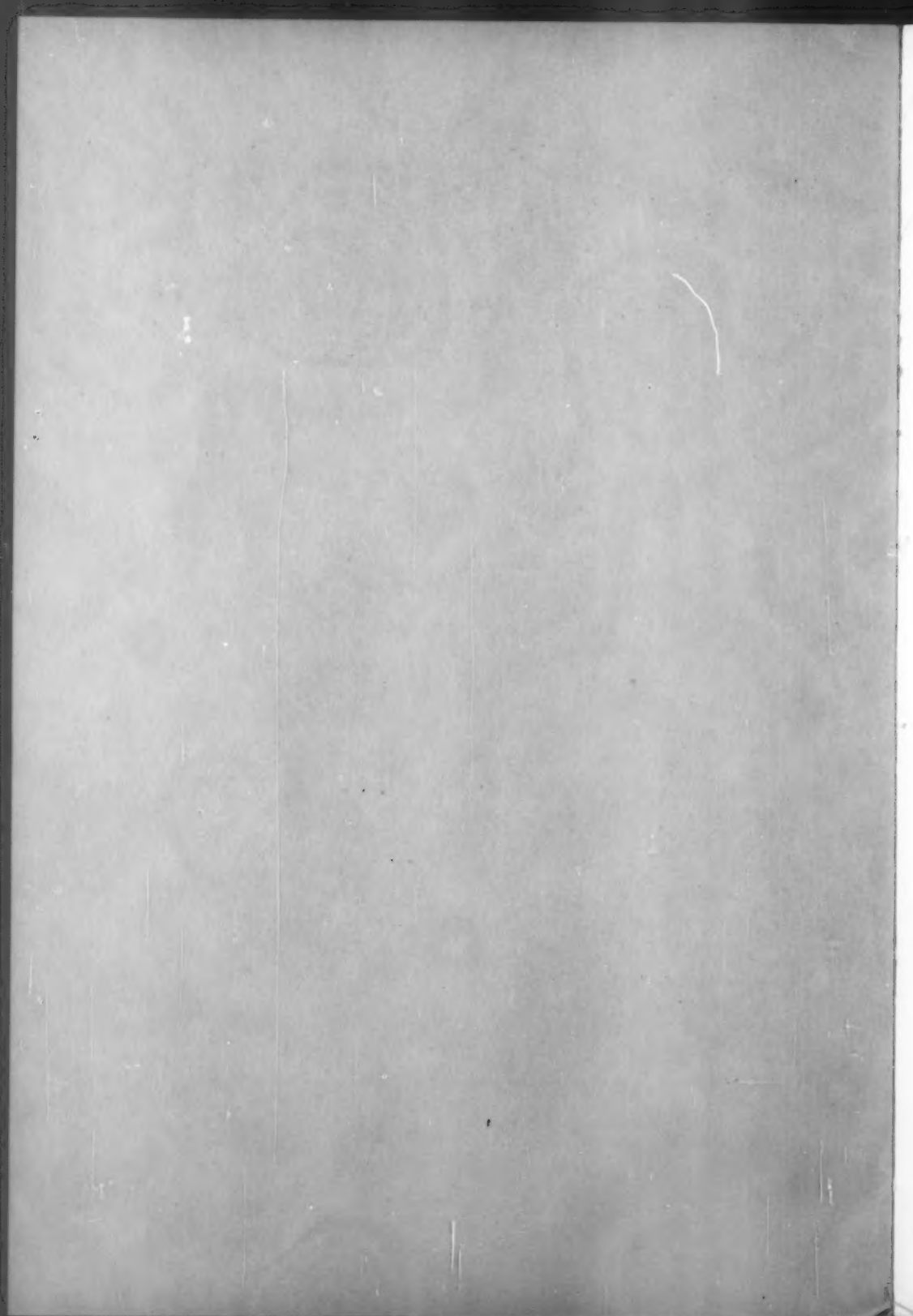
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Published jointly by THE SOUTHWESTERN SOCIAL SCIENCE ASSOCIATION
and the UNIVERSITY OF TEXAS PRESS



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Entered as second-class matter at the post office at Austin, Texas, under act of March 3, 1879. Published quarterly.

THE SOUTHWESTERN SOCIAL SCIENCE QUARTERLY is the official organ of the Southwestern Social Science Association. The subscription price is \$5.00 a year or \$1.25 a copy to members; \$2.50 a year to students. Subscriptions to the QUARTERLY

and all membership payments should be addressed to the secretary-treasurer of the Association, James M. Owen, Louisiana State University, Baton Rouge, Louisiana. Any change in address should also be reported to the secretary-treasurer. All manuscripts should be addressed to the editor, Harry Estill Moore, University of Texas, Austin 12, Texas. Books for review should be sent to H. Malcolm Macdonald, Book Review Editor, University of Texas, Austin 12, Texas.

The QUARTERLY is indexed by the *Public Affairs Information Service* and the *International Index*.

Editor's Foreword

HARRY ESTILL MOORE
UNIVERSITY OF TEXAS

THIS SUPPLEMENTARY NUMBER of the *Southwestern Social Science Quarterly* is an extra and unexpected dividend for the journal and the Association. It is made possible by a grant of \$2,000 from the University of Texas' Special Research and Academic Excellence Program established by President Logan Wilson and Provost Harry H. Ransom as part of their effort to stimulate scholarly achievement.

The papers comprising this issue of the QUARTERLY were selected as those best representing the scholarly attainments of participants in the Association's annual meeting for 1959. In several cases choosing one paper to represent a discipline—with the consequent elimination of all others—was not only difficult but onerous. It is entirely possible that some who heard papers read from a particular section or from various sections will disagree with the choices made. It is also likely that others will feel that some particular section offered two or more papers which were better than the one selected. There is, however, no mathematical or mechanical method of selecting and rating papers. And it is felt that this particular issue, at least, should be truly representative of all the disciplines in the Southwestern Social Science Association and that this can best be accomplished by selecting one paper from each section.

Whether such issues follow future annual meetings and become a continuing part of the QUARTERLY depends on two factors: the state of the Association treasury and the reaction to this issue.

Change, Lag, and Imbalance

WILLIS M. TATE

SOUTHERN METHODIST UNIVERSITY

ALTHOUGH I CAN NO LONGER CLAIM what used to be an intimate relationship to the field of social science, it is a pleasure to speak to this group of social scientists. I speak not as a specialist but as an administrator—a generalist in the mundane field of higher education.

The social sciences are our hope, not only for survival but also for the fulfillment of the good life. This is a big order, but it can be spelled out in a number of ways. As I see the historic role of the social sciences, still valid as seen against the background of our contemporary world, it is to *find a way* for men to live in harmony in a shrinking world community and to *determine a strategy* for applying a common hierarchy of values.

The social sciences, however, have not fully assumed this their rightful role. Two conditions have helped to account for this: first, the existence of a cultural lag which has given the social sciences the short end of the stick; and, second, the social sciences, preoccupied with method and with defining the limitations of their special discipline, have not become articulate and aggressive during this time of crisis.

We live, literally, in a new world, and it is impossible for us to escape the fact that much has happened. Any one of the following innovations and conditions would be enough to disrupt a century, and we have had them all since World War II: (1) the birth of the Atomic Age, which offers us chaos or unlimited plenty; (2) the breach of a frontier of outer space; (3) the global struggle for human freedom; (4) the awakening of the masses of depressed people of the world which has made us live in an age of "rising expectations"; (5) the strides in man's efforts to master his environment, involving such things as electronics—the transistor is only ten years old; the jet age—we now see opera in London or Paris and go to bed that same night in New York; mass communication—radio and television have put us at the ringside of every world event.

A sixth condition with which we are faced is the often-discussed population explosion. A major world problem of the next fifty to one hundred

NOTE—This address was delivered before the annual meeting of the Southwestern Social Science Association, March 27, 1959.

years is that of human survival in the face of mounting population pressures. Although many people are aware that there is a problem, few are aware of the real mathematical implications involved and the seriousness of the problem. Here are some figures to be found in countless population analyses. By A.D. 1 there were approximately 350 million people on earth. By A.D. 1650 there were 450 million. By 1950 there were 2.5 billion people. At the present rate, the population is doubling every one hundred years. It is reliably estimated that by the year 2000 there will be 4 billion people living on this earth. It is very essential that we be aware of what is happening. We must not be like the man who said, "My God! Something walloped me ten years ago! What am I going to do about it?"

What will happen in just the next five years is almost unbelievable. An eminent scientist on our campus several months ago held a small group of us spellbound as he told us what great discoveries and innovations were just around the corner, only five or ten years away—speeds beyond belief, powers and energies to do the impossible, outer space in which some of our students will travel, and new weapons and tools beyond my comprehension. This means that seniors in high school may graduate from college into this type of world.

In a word, we must educate for the inevitability of change. We are less than forty hours away from any spot in the world, and a bomb is only sixteen minutes from any spot in the world. People are now informed on everything under the sun. And at the same time, by these same devices, we are misinformed on a gigantic scale.

We live in a world little imagined by our forebears and with no assurance of what it will be tomorrow. The fact is, the only certainty we have is the inevitability of change. Instead of perpetuating stability, our schools, colleges and universities have turned into launching platforms where our students are pushed out into a new, baffling, and untried world.

I would like to state afresh what I have implied before: although we have witnessed spectacular changes, especially in the physical sciences, the social implications of these changes have not yet been really felt. Nor have we even begun to feel the results of such tremendous change. Many leaders feel that perhaps the most crucial issue of our mid-twentieth century is whether we are willing and able to adjust our politics to the imperative necessities of our technical knowledge and material power.

This fact, of course, calls to your mind and to mine a familiar principle of the social sciences: "Social lag." As you so well know, if the different parts of society were disparate, quite unrelated to one another, there would be no special concern with the varying rates of speed of the different parts. But the strain that exists between two correlated parts of a culture which

change at unequal rates of speed can be disastrous. This strain is interpreted by the social scientist as a lag—for there is a lag on the part that is changing at the slowest rate,¹ and we are in a lag now.

The particular dilemma of our free society can be described as we look at the double challenge we face educationally. On the one hand, we must at all levels intensify education globally to enable men to solve their specific and demanding problems. On the other hand, we must broaden education to enable men to understand their fundamental interrelationships.

While we can truthfully say that the deep social implications of our swift, changing scene have not been felt, we must recognize at the same time that *there has been swift and immediate response by man to this change*. In fact, we can call it "shock reaction." "Some disadvantages often accompany any too-sudden preoccupation with problems in a democratic society. One is the demand for quick solutions in matters that by their complex nature resist immediate and simple answers."²

This is well illustrated in the pressures which higher education faces today, pressures which have created an imbalance in education. There are the pressures from technology. The 1958 Carnegie Report, in a summary description of this pressure, says: "Even in such areas of learning as engineering education, the pressure is on our leading institutions of engineering education to provide more thorough and higher level of education in the fundamental sciences. . . ."

There is pressure from civic groups. The nation-wide demand for an increase in scientific education in our high schools and colleges has caused the appointment of special committees on scientific education from a number of civic groups. These committees are charged with the responsibility of urging the public schools and colleges to place stronger emphasis on scientific education in their classrooms.

There is pressure from the Federal government, especially the Congressional bodies, which resulted in the appropriation of large sums of money by the Federal government to be spent on scientific research.

Of special concern to all educators is the shock of change to the individual. Rapid change brings crises which breed fear and a sense of being "lost." I am not sure but that our modern gadgets have been a shock not only to our culture but to individual personality. Out of all this efficiency some sort of collectivism could emerge, making full use of the technological advances which have shrunk our globe. In all of this, the slow and more tedious wheels of a democracy could grind to a stop and the excitement of being an individual could become just a memory.

¹ See, for amplification, William F. Ogburn and Meyer F. Nimkoff, *Sociology* (Boston, Houghton Mifflin Co., 1940) pp. 708 ff.

² See Ford Foundation Report (1958), p. 12.

In this present climate of what is still shock reaction, we need to bring our new knowledge under a value system consistent with what we as a nation and as a civilization understand to be important in life. It is not my purpose today to discuss the sources of these values, but to move forward upon the presupposition that they do exist.

Not all knowledge has been used for the good of mankind. Knowledge can serve a dictatorship as well as a free society. A look at the past and present dictatorships in the world will verify that truth. "Knowledge is power, and power cannot escape the calculus of political rivalry."³

The peculiar task of the social scientist, as I will say over and over again, is to find a way, to determine a strategy, by which a common hierarchy of values may be applied to life. It is the job of the social sciences to be the meeting ground where ideals on the one hand and knowledge of man's world on the other can meet in a supporting relationship. Let us look at this important discipline, the social sciences, for a moment.

The social sciences underscore the truth that we live both in a world of man and a world of elements. Social scientists have long noted that it took man a long time to become scientific about the subject matter with which the social sciences deal. Human beings are the first things to which a person is exposed in the real world, but they are the last things to be scientifically studied.

The rapid growth of the social sciences is indication, however, of the value our society places on the necessity of developing men and women who ask questions concerning that society itself. This is a comparatively new development in the human scheme of things and is an essential element in what we call democracy. For only in a democracy will there be found men who, with the approval of the mass of citizenry, are permitted to ask embarrassing questions. Only a democracy permits its citizenry to realize that all forms of human organization are but provisional solutions to problems, just as science itself accepts its conclusions as probabilities and not as certainties.

We must ask questions concerning areas of living which are most imperious to clear thinking! And, if we question seriously, our action can provide a field day for the social sciences, for there are many areas of our life which we will not, as yet, allow the searching eye of the social scientist to examine.

Against this background of a world in rapid change, and the varied, irregular response of man to this change, the college and university today stand, striving to exist and to fulfill their reason for being.

A university must know why it exists. A university needs to re-examine its total life in the light of its purpose. But this purpose must not be just something on paper. "It should," says President Griswold, of Yale University, "be an expression of both faith and conviction that impels us to

³ Rockefeller Report (1957), p. 9.

take our stated purposes seriously, to have the moral courage to practice what we preach. . . ."⁴ Woodrow Wilson said the purpose of higher education should be "the training of the young of American life for the nation's service." To Wilson the nation was a *society of men*, not a totalitarian state — "a social machine having life." Education, according to Wilson, must be appropriate to, and the most important function of, the community.

A statement of the purpose of a university which I learned many years ago was simply that it was for the "education of the whole man to live in a free society." The liberal-arts program, which lies at the heart of a university's program, again to quote President Griswold, "is there not to teach businessmen business, or grammarians grammar. Rather, it is to awaken and develop the intellectual and spiritual powers of a person before he goes out into the world to follow some career. A liberal arts education should help each person bring to his total life the greatest possible assets of intelligence, resourcefulness, judgment and character." Thus, liberal education must include not only an intellectual approach to what is fact, what is lasting, what is beautiful but also a deeper truth about what is pertinent and what we should do about it.

One of the most challenging expressions of the life of the university is found in its curriculum. No longer is there war between the scientist and the religionist, the pragmatist and the idealist; between discursive truth and revealed truth, the pure and applied truth. Both are necessary, complementary and mutually stimulating to the other. But peace does not reign on the curriculum front.

There has been an age-long battle for a share in the limited time allowed each "academic discipline" to influence the life of a student. Innovations in curriculum have never come easily. We now live in an age when the physical or natural sciences are in the forefront; but this has not always been true. Curriculum change is, therefore, mandatory, and has always been, by virtue of the purpose and function of education.

Now, we must strive for a clear-cut understanding of the place of the social sciences in our understanding of what a university is supposed to be. We must begin with our basic assumption that the human person is important. Both our Judeo-Christian and our democratic heritages support this assumption, which is also implicit in our previous statement of the purpose of a university.

As a prerequisite for understanding the place of the social sciences, we must also ask prior questions about the humanities. The intrinsic worth of the humanities, it seems to me, is to be found in their "foundational" func-

⁴ *Liberal Education and the Democratic Ideal* (New Haven, Yale University Press, 1959).

tion. They provide the perspective upon which we view what is important in life.

But it is the social sciences to which we turn for help in this business of living. They give to all of us an understanding of the human person in his various communities. If you do not have this, what have you? After you gain the perspectives which the humanities will give you, you must then go on to work out those values pragmatically in life and existence. The social sciences must stand between the materialistic and natural truth of the physical sciences on one hand and the idealistic and dynamic values of the humanities on the other. Not only must the social sciences provide a reconciliation or synthesis between the two but also a strategy—a strategy outlining how the forces of men can be harnessed to bring the full life to our world. For example, full employment and inflation have to do with biology, chemistry, physics, and all physical sciences, and they certainly are factors relating to peace, welfare, and the condition of man's soul. Who but the social scientist can give leadership and wisdom in how and when and why these forces can serve mankind? Juvenile delinquency has to do with biological processes in the family, but from the social sciences must come the reason for and the solution of delinquency. How are such barriers as class, race, national interests, and so on, broken down without harmful tensions and destruction? What does history say about the great sweeping movements that push mankind into its highest achievement or its most pathetic folly? A study of man has revealed to the social scientist the essential wholeness of man. We know that we must educate the whole man to live in a free society. This forces us to come to grips with all the forces which make up modern man, what his motivations are, and how an understanding of them can help us solve our dilemma.

In the light of all this, it is not surprising that there are many voices calling for more emphasis on the social sciences. The 1957 Rockefeller Report states that

Though the social sciences are not in a sorry state, none the less they fall well short of what one would wish and what the times urgently require. To take but one important instance, the problems of economic development are economic, social, political and international in character. Yet such analyses and theories of economic growth, social change, political evolution, and international relations, as the Social Sciences have yet devised, are often much too simple as formal models or, alternatively, too dependent upon presuppositions that often do not hold for many areas of the world to be confidently applied to the concrete problems of development of a particular country. . . . Yet the semblance of the way out lies in better work at home and abroad on these and related problems by trained Social Scientists with vigorous minds and a genius for cutting through the heart of the problem.

Within a university striving to fulfill its reason for being, there are many helpful forces at work of which our total society is in great need. It is amazing how few people know what a university really is. It can be the champion of the rational approach much needed in times of hysteria and brave enough to stand in times of emotionalism. Within the university there is freedom to examine all presuppositions. This opens many doors for the social scientist who takes his responsibility seriously, for there are still some fields where social science research is taboo and it is extremely difficult to act on matters of fact. Within the university community there is the opportunity for the "grand synthesis" which some describe as "integration of all of the academic disciplines" in the life of the student. This is perhaps one of the really great frontiers in education today. It is especially needed when seen against the background of the student's feeling lost in a world of swift change. Many studies have been made on the lack of integration in a student's education, with the continuous reminder, for example, that few universities make any effort to relate what the student learns about literature to what he learns about science.

A few schools are making a serious attempt to deal with this problem of integration, however. For example, Brown University's special courses for Juniors and Seniors point in that direction. One of their courses, offered by a mathematician, attempts to bring together the methods and philosophy of science, the social studies and the humanities to show their respective roles in the life of the individual. Another similar program, which started in 1953 and has received wide recognition, is at M.I.T.

The whole subject of the need for "integration of experiences" in the life of the student says something to me about divisions, departments, and the limits of various disciplines. There is inherent in much of our present way of developing curriculum some grave blights on higher education.

In looking at the place, function, and purpose of a university, we often overlook the teacher. Higher education in America today presents us with a strange picture. We are spending more money than ever before. More parents have set their sights on a college education for their children. But in the midst of all of this preoccupation with the idea of higher education, the indispensable element in higher education, the teacher, is often overlooked. And while this is unfortunate for the teacher, it is disastrous for the college or university. If we allow the present condition to prevail for much longer, it will take our society generations to recover the excellence in education which is lost when emphasis on teaching is not fostered among the nation's top talent. To meet this, we need public support based on full information about the problem.

But as badly as public support is needed, perhaps even more desperately

needed is the urgent responsibility of a given field of education to seek out, find, recruit, and inspire potential teachers. This is especially true for the social sciences. But teaching is an art, not the automatic by-product of a Ph.D. degree. We need idealistic, capable students with a sense of mission and with an aptitude for the teaching art. They are now being wooed and won by other professions and other callings which offer them more in terms of money, status, time, freedom, and our current criteria of success. Regardless of this, however, if you who are social scientists do not excel in attracting these best students into teaching, your discipline in the academic world is doomed.

A look at our universities would not be complete without mention of what is one of our crucial problems—money. I could give you a half-dozen of my talks on the need for a greater share of our gross national product going into higher education. This is my business. But it is sufficient to say that I have found when we can be definite, firm, united, and articulate about our needs, the money and support will come. Many of you will recall the story of Professor Einstein's simple letter to Franklin Roosevelt, in which he stated clearly the facts, outlined in uncomplicated words, the awesome alternatives which our country and the world faced regarding the development of nuclear power. You know the result. Government and industry moved into the development of the kind of power which has ushered in the Atomic Age. Even pure research, which for many years played a secondary role to utilitarian research, now makes sense to the public.

Wherever light and direction have come forth, they have come from the men who know the academic discipline or area of inquiry best—the professors who work at it all the time. Unless you know where you are going, what you need and why, you cannot expect some administrator, much less the public, to know and support you.

We come, finally, to change and the imbalance it has caused.

We are all imprisoned in the cell of current materialism, chained by the shackles of security, and guarded by the jailer Survival. One thing is certain. We shall not achieve the minimum military security essential to the continuance and further development of the way of life we cherish unless we improve upon one particular kind of education—a liberal education of balance. It is to this kind of education that we must look for the competence that will enable us to survive and, we hope, prosper in the world in which we must live.

Our undergraduates are serious and for the most part dedicated. They are bewildered, however, with a sense of being lost. They cannot find their way in a world that changes so rapidly and in which it appears that an individual must be destined by forces over which he has no control or of

which he has no understanding. With false gods of success and segmented knowledge, no wonder there are snowball fights at Yale and other escapes to trivia.

Some voice must call for liberation and balance. Some syntheses must come between the discoveries of the space age and the everlasting values of our heritage. Some counteraction must be made to the crash program. Some strategy must be found to allow an individual, made in the image of God, to live in harmony and peace with his fellow men.

With time and careful, energetic, creative attention to our business, and with full awareness of our purpose, perhaps we can let the light of rational behavior, peaceful interaction and proved values light our world and bring into balance the wisdom we acclaim.

Management Services by Certified Public Accountants

FRED W. NORWOOD

TEXAS TECHNOLOGICAL COLLEGE

MANY MEMBERS OF PUBLIC ACCOUNTING FIRMS and possibly a few accounting professors believe that the accountant in public practice should restrict himself to auditing and tax work, and perhaps some systems work. Adherents of this belief feel that the broader area of management service work is not accounting and any attempt to expand into such an area will jeopardize the present good standing of the profession. The Institute bulletin "A Classification of Management Services by C.P.A.'s" lists 120 titles to classify management services. I wonder if some of those who object to other phases of the public accountant's work may think that many of the titles listed are completely outside the accounting field. For the present, one observation can be made—accounting encompasses internal control. As the Institute defines internal control:

Internal control comprises the plan of organization and all of the coordinate methods and measures adopted within a business to safeguard its assets, check the accuracy and reliability of its accounting data, promote operational efficiency, and encourage adherence to prescribed managerial policies.¹

Using this definition of internal control, it is rather difficult to see how in serving business management we are in any danger of expanding beyond the area of accounting with all its ramifications. The requirements are only that the accountant's relations to management remain at the advisory level, as distinct from the operating level.

How did the accounting profession happen to branch out in terms of this additional service to business management? This development simply parallels the development of accounting theory. A brief review will explain the change that has taken place in the way we think of accounting. Certainly we have come a long way from the day when an accountant was known as a person expert in accounts, or as one who could prepare a conservative balance sheet. With the growth of the corporate form of business, and long-term financing, we now recognize that it is the ability to earn a profit that will

¹ American Institute of Certified Public Accountants, *Internal Control* (1949).

determine the success of a business in the long run. Cognizance of this has led to more attention being given to income measurement. We now think of accounting more as the process by which we measure the revenue from different sources in terms of the cost of producing that revenue. Such measurement, if made carefully and taken in conjunction with other accounting data, such as prior years' statements, trade association figures, budgets and standards, forms the basis for managerial decisions in directing business operations. When we think of accounting in this way, we are led directly to top management, where the decisions are made and policy is formulated, for income production is the management process. Thus accounting becomes not just a useful method of recording information but an integral part of the business world—a dynamic world with increasing intensity of competition and increasing complexity of corporate business structure.

At the same time, business management is finding the increased complexity of organization confusing and decision-making more and more difficult. Too many variables enter into the picture. Thus, management today has a greater number of problems—serious problems: for example, a problem believed to be outside the skills of the organization's existing staff; or a problem that will require more time to solve than the regular staff can profitably give. On the other hand, management might desire only a fresh approach to a specific problem, or new insight into the organization as a whole.

A survey by *Fortune* magazine some years ago revealed that business management has searched frantically for outside assistance in solving business problems. This is especially true in the Southwest where many small businesses have rapidly expanded to the point that their personnel's education, management techniques, and time available to grasp the new and complex structure are no longer sufficient. They suddenly find that they have lost control.

It seems, then, that the development of management services departments in public accounting firms has been a perfectly natural step resulting from the development of accounting theory and the increasing needs of business management. Note also that there has been a similar development in the field of internal auditing. An examination of early writing indicates that the purpose of the internal audit department was to ensure the greatest possible accuracy in records and reports as well as footings, postings, and extensions. Now one speaks of management auditing; describes their function as one of seeing that all management policies, plans, and procedures are being carried out; of further performing the functions of appraisal and revaluation of the effectiveness of such plans, policies, and procedures. The question, I believe, is not whether accountants should broaden out into management work nor how far they should expand in this direction, but rather why public

accountants have not stepped out earlier and with more confidence to grasp this opportunity to render further service to business on a broader level. Three reasons are usually given for accountants not broadening their service areas:

First, the heavy demands upon the profession's time to keep pace with increasing demands for auditing and tax work. This task has been of such magnitude that little time has been left to think about or even note the additional needs of business.

Second, the client's reluctance and quibbling over fees may have led some to think another and perhaps higher fee would be more than the client would bear. No doubt such thinking is justified to some extent but not entirely. It is to be admitted that regardless what *we* think, most clients consider both auditing and tax work as something forced upon them by outside influences and fail to see how either produces any profit. Management consulting work can usually be identified with profits and, as such, can command higher fees that will be paid with less pain.

Third, perhaps a degree of complacency. With the demand for auditing and tax service mounting rapidly, it is easy to become satisfied with things as they are. I suggest, however, that it is rather difficult for a profession to stand still in terms of quantity and quality of services rendered.

In addition to these three reasons, two other possibilities occur. There is a natural reluctance to enter into a new area where one will be in a more exposed position. I say this after many discussions with auditing and tax men. Certainly the human-relation problems are of much more importance in management work. Success depends more on co-operation with management and management's personnel.

Furthermore, even though accounting education and public accounting training provide one with excellent background and business experience, probably both lack a great deal in qualifying an individual to solve complex management problems. While his knowledge and skill undoubtedly endow the C.P.A. with a considerable degree of competence in his field, some of its aspects are so demanding as to require greater specialization than the practitioner usually has.

What are the underlying principles that govern the activities of a management services department of a public accounting firm? There appear to be vast differences in the manner firms have organized this department and their philosophy in operating it. The approach taken by some, and the one that particularly appeals to me, is discussed in the following paragraph.

In the field of management services a team is needed—a group of men competent in various fields and with some industry specialization. Management has become such a complex subject that no one can become an expert in all fields. A firm can, however, bring together a number of men compe-

tent in various fields. Many of these men will not be accountants although it would be highly desirable that all have a competent grasp of the accounting field. This would mean that for small specific jobs a man with the necessary specialization could be assigned. For larger jobs, encompassing various activities of larger and more complex organizations, the approach can be made as a team, which will permit the development of a broader based solution than could be developed by any individual consultant. In addition, the team can help the client in different areas using different staff experts but maintaining the same over-all supervision. Furthermore, such an organization would provide the opportunity for personal development of more consultants through cross-fertilization in their normal association together with the firm.

Those that hold with this philosophy say that it can only be by using the combined experience of such a team that a firm can hope to regard itself as skilled and proficient in management services. Also, we must remember that in all cases—auditing, tax work, or management advice—the client will be calling for an expert in whatever service he requires. If we provide such experts, we will have increased the usefulness of our profession, our prestige, and our income. If we attempt to perform work outside our competence we risk a setback from the hard-earned position now held.

If this philosophy is accepted, it follows that some relationship must exist between the size of a firm and the quantity and type of services a firm can offer to business. Smaller firms will be limited, in general, to areas of paper work, systems, budgets, reports, and, possibly, punch card feasibility studies. The large national firms will have enough volume of activity to justify maintaining a sufficiently large number of different specialists to render broader consulting service.

In the developmental stage of management services departments those active in their organization felt that to provide the kind of staff necessary for such work, they should organize a strong department of highly specialized men from various fields with some industry specialization on a regional basis to do the management work for all other offices in the region. They felt that only in this way could they consider themselves as skilled and proficient in management services work.

Although this appears to be a sound plan it presents some very real internal problems. For example, let us assume a regional management services department is located in the Houston office of a firm to serve all other offices in the Southwest. The New Orleans office has a client considering the need for a general survey for his company. The partner in charge of the New Orleans office decides to call in the new management services department. Differences in viewpoints, ideas of what the objectives should be, resentment in giving up authorities, arguments over billing, jealousies

of audit staff over higher billing rates and pay scales, etc., may result in strained relationship between the New Orleans and Houston offices. As a result the New Orleans office decides it can do without this service. In time something similar will happen in other offices, resulting in pressure from managing partners to have a small group located in each office under the direct control of that office. This, of course, means fewer specialists from other fields, less industry specialization, and, consequently, a narrowing of the quantity and type of services that can be rendered except in the very largest offices, such as are found in Chicago and New York. I believe this is very close to what has happened in some large firms.

In order to present a picture of what is going on in management services departments, I have analyzed the work of several national accounting firms. The following tabulation shows the kind of work performed:

Analysis of Types of Work Performed by Management Services Departments by Percentage

Improvement of clerical procedures:	
Punch cards	19
Other	20
Making accounting more useful:	
Cost systems	14
Other accounting systems	9
Budgetary control	6
Management reports	9
Production planning and inventory control	7
Electronic computers and operations research	9
Organization studies	4
General surveys	3
Total percentage	100

The first classification, improving clerical procedures, is broken down into punch card engagements and all other engagements where the improvement of clerical procedures is the predominant objective. The subclassifications concerning accounting systems include all engagements where the primary emphasis is directed towards either establishing a new system or improving an existing system. Management reports include those assignments where the primary objective is to improve the kinds of reports which operating executives get for control purposes. The last breakdown is general surveys. A general survey usually involves a review and appraisal of the policies, organization, personnel, facilities, and procedures of a company. This review covers the major functions—sales, manufacturing, finance and control, research and development, personnel relations and purchasing. An analysis of the industry, factors affecting growth and profits, and the company's competitive position in the industry are generally examined. General surveys usually arise in one of the following ways:

1. *Acquisitions or mergers*

General surveys of one or both companies to help appraise the soundness of the acquisition or merger.

2. *Creditor assistance*

The financial institution will ordinarily require the debtor institution (often delinquent in its repayments) to furnish a study of its soundness. The debtor institution then engages the management consultants.

3. *Executive information*

The company management desires an independent, objective review of current management activities and goals usually aimed toward developing ideas for increased profits.

The bulk of the work fell into the first two groups—development of ways of doing clerical work more effectively at lower cost and making accounting a more useful management tool. I doubt that those most skeptical of management services departments feel that this type of work was beyond the realm of the accountant. Production planning and inventory control have always been considered a part of the practice of the accountant. This leaves electronic computers and operations research, organization studies, and general surveys which have accounted for about 16 per cent of the total work of the department. Certainly each firm expects the electronic computers and operations research to grow and become a much larger percentage of the total. However, this will necessitate bringing together a number of men competent in fields other than accounting and this, I believe, is where many feel that the accounting firm is straying beyond its domain and jeopardizing the present good standing of the profession.

Both organization studies and general survey engagements are similar in that they extend the engagement into problems of marketing, manufacturing, top management organization, thereby expanding the activities of the management services department. There is definitely a trend toward such expansion, and there is every indication that the trend will increase and grow as time goes on. Again, a broadened field of activities will require bringing into accounting firms men who are specialists in fields other than accounting.

I think it might be interesting to review three separate cases. I have not attempted to pick glamorous cases but only to illustrate several types of engagements performed by a management services department.

Here is a typical case that illustrates work in the punched card field. The company was an appliance distributor—small and specialized but growing rapidly. Sales consisted of a large volume of small orders. The situation was very favorable for expanding sales into several new market areas. However, the difficulty experienced in keeping up with the paper work, in finding and in training new personnel for larger clerical operations, and its high personnel turnover rate was holding the company back. Further, the manage-

ment felt it was not well enough informed in the areas of sales analysis, such as what was being sold, sales by markets, and how profitable it was.

After reviewing the company's operations and clerical procedures, a management services team reached the conclusion that by adopting punched cards the company could get all the information it desired, and cut down on the need for additional clerical personnel without increasing expenditures. Furthermore, volume could be expanded later without any significant increase in clerical personnel or cost.

Since no one in the company was familiar with punch card equipment, the management services team assisted in the selection of several people for the job and recommended training programs for them. Further assistance was given by working with the new company personnel in developing flow charts and planning the procedures.

Now, consider a case where improving the usefulness of accounting to management was the objective. The case concerns a manufacturer of equipment that has a long lag of one to two years between receipt of an order and the delivery of the equipment. In 1956 the company encountered a weak market and sharp competition. As a result a number of contracts estimated to break even were taken in order to maintain operations.

In 1957 demand for the company's product increased to the extent that a four-year backlog existed and the plant was on a three-shift basis. Yet, the first six-month income statement showed a net operating loss, and it appeared losses would continue until the low-priced contracts were all completed.

The president became very much concerned because he could not obtain from anyone a clear picture of the company's economic position. Since profits or losses were not taken on a job until the job was completed and delivered, the profit or loss fell in large amounts when deliveries were made. Scheduling and completion dates became a complicated problem. The president and the board of directors did not have adequate information for planning.

A management services department was asked to study the situation with a view to providing a plan by which the company could get the necessary information to plan profits and control their operations. After a careful study of the company's organization, operations, and the accounting methods employed, a plan was developed that provided the planning information and control the company desired. The plan provided a means of following a contract through the one to two year period from a profit and loss standpoint.

An example of an operations research engagement, although the results are not now known, is given in order to illustrate how a job of a pioneering nature might be handled. A manufacturing company producing a low unit

cost product sold in approximately 45,000 retail establishments has a total volume of more than \$100 million. A continuing argument over the number of warehouses needed and where they should be located had been going on for years. Someone had suggested to the president that an electronic computer might provide the answer.

A consultant from a management services department discussed with the president an operations research approach to the problem. The consultant stressed the point that he could not determine in advance whether they would be successful or not and emphasized that the study should not be undertaken unless the client realized that the results might be worthless. The client agreed and asked the consultant to undertake the study.

The consultant laid out a program of about eight phases. The first phase consisted of a pilot study to get a better idea whether or not the results might warrant proceeding with the principal study. At the end of each phase the results were reviewed with the client and the next phase outlined to him, together with an estimate of the cost. The client could then decide after each phase to abandon the project or the consultant could recommend abandonment of the project.

As the accounting profession expands in the management services field—if only in the areas of clerical procedures, cost systems, budget, reports to management, punch card feasibility studies, etc.—the education, experience, aptitudes and personality requirements will be somewhat different and more demanding.

Report writing may be cited as an example. An audit report tends to be a mechanical process in that there is a similarity of style in all audit reports. The auditor in charge can always and usually does pull out half a dozen or more reports of similar audits and uses them as a guide. Most management engagements require numerous progress reports together with a formal final report. The similarity of engagements common to audit reports will not exist. Estimates must be made, conclusions drawn, and ideas sold which will require a different if not greater skill.

Oral presentations will also be made more frequently. Consequently, the importance of good speech habits and the ability to conduct or participate well in group discussions is of more concern. In other words, there will be a premium on the ability to clarify thoughts, to synthesize materials, to drive forcefully at the heart of the issues, and to state them without waste of words.

Business problems now present many variables. Electronic computers make it possible to take these variables into consideration through a purely mathematical approach. The number of pure mathematicians on the payrolls of corporations and accounting firms is increasing. Thus more mathematical knowledge is required simply because the solving of business problems

through the use of mathematical models (Operations Research) involves mathematics.

Objective appraisals of equipment, special as well as general purpose, will be a part of the task, as will be feasibility studies to determine whether or not certain equipment will be helpful, and also evaluation studies of a company's own committee proposals. Assistance in installation of equipment represents work demanding a wide knowledge of all the various equipment ranging from National Cash Register bookkeeping machines up to the large-scale computers.

The engineering approach to work simplification with particular emphasis on flow charting should be a part of the training, since flow processing is a very important part of procedure analysis. Practice in flow charting (studying the charts and identifying administrative defects, simplifying the work steps, and flow processing the new proposed procedure) would be most beneficial to an accountant in management services work.

A better understanding of the fundamental principles of organizational planning as related to company policy, objectives, and programs than the average accountant has would be desirable. Practice in constructing formal organization charts and writing up organizational manuals would prove helpful.

The capacity to handle human relations is of greater importance to the consultant than to the auditor. Since much of the accountant's work will involve developing new methods of doing something, he will come face to face with the client's employees who resent and fear changes, resent criticism, and are perfectly happy with existing conditions. How will this affect my pay? Can I do the new work? Will I lose my job? are the questions in their minds which cause resistance in many ways. Incidentally, the management will become very cold toward this work if they feel employee morale is at stake.

Possibly more than anything else an accountant engaged in management services activities must acquire a management approach to business. He must somehow develop a better understanding of management viewpoint. He must tune himself to management thinking.

This development of further management services by public accounting firms—calling for additional skills and identification with management thinking—requires that a careful review be made of the curriculum used in preparing accounting students of today to be the accountants of tomorrow.

Interdependence of Population and Economic Variables in Personal Incomes

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DURING THE DECADE 1940 to 1950, state per capita personal income increases ranged from \$511 in Mississippi to \$1,149 in Delaware. The divergence in average income levels of people among states has continued since 1950. What explains these income trends? A defensible explanation would constitute a theory of income inequality, accounting for differential increments of economic development among areas or states. Some current explanations of this phenomenon are either misleading or false, or both.

The purpose of this paper is to provide additional insights into the structural relations of variables which produce differential changes in state per capita incomes rather than to unveil a new theory, however great the need for one may be. Specifically, we partially test the hypothesis that population and economic conditions are *interdependent* in explaining these income changes. The establishment of this hypothesis will necessitate a revision of many present theories explaining income inequality.

Interdependence and Causal Ordering

Any hypothesis contains an explicit or implicit representation of causal ordering of variables. An explicit formulation of our hypothesis in terms of the causal ordering postulated will follow.

Interdependence (or lack of independence) of variables means that interaction among them affects their structure. That is, if two variables are interdependent, the following conditions must hold: (1) a significant correlation exists between the two; (2) this correlation is not spurious; and (3) the functional relation between the variables is symmetrical—i.e., not a "one-way" causal ordering.¹

NOTE—The authors are indebted to Dr. O. D. Duncan, Department of Sociology and Rural Life, and Professor E. J. R. Booth, Department of Agricultural Economics, Oklahoma State University, for their suggestions and criticisms in preparation of this paper.

¹ Cf. Herbert A. Simon, *Models of Man*, Chap. 6, pp. 11–13.

Six possible explanations of a significant correlation between two variates, used to explain a third variate, follow:

- 1) Both arise from a common source;
- 2) Both are related to a common source, but their relation with the source is symmetrical for one or both variates;
- 3) Variate one produces variate two;
- 4) Variate two produces variate one;
- 5) A simultaneous occurrence of both (3) and (4), or interdependence;
- 6) Variables are not distinctly different, i.e., one expresses a different way of defining the other.

Case (1) depicts a spurious correlation. It is possible that correlation between two variates can be partly spurious and partly "real." Case (2) portrays a spurious correlation if one of the variates is asymmetrical with the common source. Otherwise it is an interdependent relation among three variates, and this relation is consistent with our hypothesis. Case (5) explicitly depicts our hypothesis of interdependence of variates. The causal ordering for the first five of the possible explanations of correlations between two variates, x_1 and x_2 , are pictured in Figure 1.

Numerous possible relations exist between two (or more) variates and a dependent variable. For the function $y = f(x_1, x_2 \dots x_n)$, where y is the

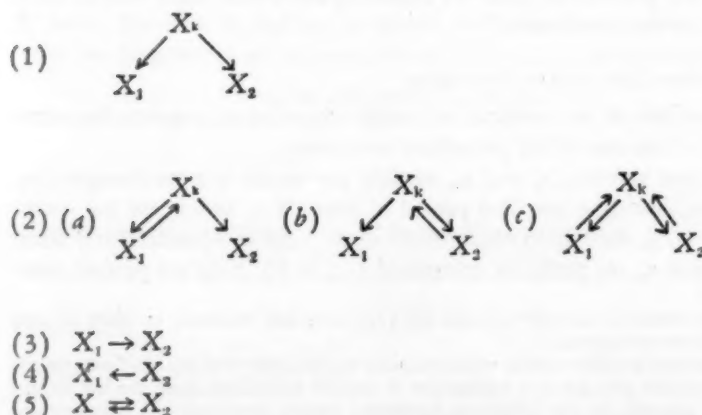


Fig. 1.—Possible causal orderings of two correlated variates, X_1 and X_2 .



Fig. 2.—Hypothesized causal ordering among X_1 (population), X_2 (economic), and Y (income).

change in per capita income and the x_i 's are population and economic variables, we choose to hypothesize an asymmetrical relation between the y variable and the x_i 's (Fig. 2). Although a symmetrical relation for this function is not inconsistent with our hypothesis, its existence would limit our procedure. This causal ordering is not consistent with the first, third, fourth, and sixth possible explanations of a significant correlation between the x_i 's. It is incompatible with Case (2) where only one of the variates relates symmetrically with a common source. In this case, one of the variates is spuriously related with y . When the x_i 's are asymmetrically related (Cases 3 or 4), one (or more) of the variates is spuriously related with y .

The occurrence of consistency between the hypothesis and empirical results obtained by regression does not necessarily verify it. The problem hinges on possibilities of spurious relations among the economic and population variables and between these variables and per capita income changes. Spuriousness is a persistent problem in ordinary regression analyses of social data, and it is not unique to our study.

Choosing population and economic variables that precede income changes in time should reduce the risk of confounding causes and effects, as may occur with a symmetrical relation between per capita income changes and population and/or economic variables. We cannot guarantee the elimination of this risk by our procedure,² thus, we believe spuriousness likely will be basic in an attack on our conclusions.³

Some Relations Basic to the Procedure

The procedure of our analysis is a single equation regression, but some explanation of our use of this procedure is necessary.

Suppose two variates, x_1 and x_2 , explain per capita income changes (y) among states, during a specified period of time. If x_1 and x_2 are not correlated ($r_{12} = 0$), their individual effects upon y are independent and additive. If x_1 and x_2 are perfectly correlated ($r_{12} = 1$), they are perfect com-

² E.g., the changes in income (y) and the population and economic variables all may be related to a common source.

³ The numerous possible ways by which variables may be ordered to explain developments in income inequality give rise to a multiplicity of possible hypotheses about the low income problem. For example, in the Schultsian Locational Matrix hypothesis, all economic and social phenomena are assumed to be spuriously related to farm income differentials among regions except a variable measuring the degree of industrialization. This hypothesis postulates a causal ordering as follows:

Industrialization \rightarrow Agricultural and Labor Markets \rightarrow Agricultural Income

Research results purporting to verify this hypothesis have not really tested the hypothesis; i.e., existence of the implied spuriousness has not been verified (see later discussion of Anthony M. Tang's study of Southern economic development). Also, the theory held by many economists that income inequality among regions will decline with the mobility of the human agent implies a causal ordering that places income, and the related economic structure, as the cause and the noneconomic factors in the position of spuriousness.

plements in producing y (assuming nonspuriousness). If x_1 and x_2 are correlated significantly, but not perfectly, two kinds of effects upon y are produced: (1) an independent effect from one or both variates; and (2) a "joint" effect arising from the interaction of x_1 and x_2 . A measure of the interaction between two nonspuriously correlated variables is the correlation coefficient expressing the degree of association between the two.

The basic question, then, becomes how to express, mathematically, the relation between the interaction of the variates, x_1 and x_2 , and the "joint" effect produced by these variates upon y . A fairly careful review of statistical literature failed to reveal an answer to this question.

The proportion of the variance in y explained for the functional relations (1) $y = f(x_1)$, (2) $y = f(x_2)$, and (3) $y = f(x_1, x_2)$ are, respectively, r^2_{y1} , r^2_{y2} , and $R^2_{y \cdot 12}$. If $r^2_{y1} + r^2_{y2} \neq R^2_{y \cdot 12}$, we have either (1) an overlapping explanation by the two variates, or (2) a component of explanation revealed only by a joint analysis. The overlapping explanation is the more usual case. A Venn diagram may be used to explain this situation (Fig. 3). The area $A + B = r^2_{y1}$; area $B + C = r^2_{y2}$; and, area $A + B + C = R^2_{y \cdot 12}$. Our problem was to find an expression for the overlapping (joint) area, B , which contained the correlation coefficient, r_{12} . The expression derived was as follows:

$$\text{As } A \rightarrow C, \quad B \rightarrow |r_{12}| R^2_{y \cdot 12}.$$

If $A \neq C$, the error in making the above expression an equality is slight.⁴

By our procedure, we obtained independent and joint estimates of the ex-

⁴ Our procedure in deriving the above expression was as follows:

From the following equation:

$$R^2_{y \cdot 12} = \frac{r^2_{y1} + r^2_{y2} - 2r_{y1} r_{y2} r_{12}}{1 - r_{12}^2} \quad (1)$$

Substitute the letters depicting the areas of the Venn diagram to obtain:

$$A + B + C = \frac{(A+B) + (B+C) - 2\sqrt{A+B}\sqrt{B+C}r_{12}}{1 - r_{12}^2} \quad (2)$$

Solving for r_{12} :

$$r_{12} = \frac{\sqrt{A+B}\sqrt{B+C} + \sqrt{AC}}{A + B + C} \quad (3)$$

But, when $A = C$ and the negative of \sqrt{AC} is taken (which is appropriate for the example), the numerator of (3) reduces to B , since $A + B + C = R^2_{y \cdot 12}$, thus:

$$A \rightarrow C, \quad r_{12} \rightarrow \frac{B}{R^2_{y \cdot 12}} \quad (4)$$

$$\text{and, } B \rightarrow r_{12} R^2_{y \cdot 12} \quad (5)$$

If, instead of an overlapping explanation by x_1 and x_2 , a component of explanation revealed only by a joint analysis existed, the resulting expressions for r_{12} and B would be the same as in (4) and (5).

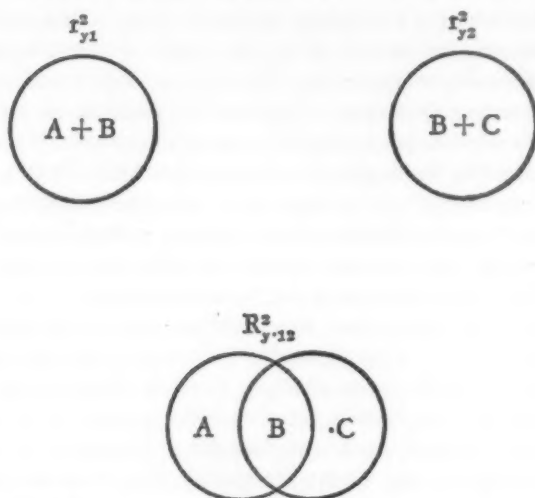


Fig. 3.—Relations of r^2_{y1} , r^2_{y2} , and $R^2_{y'12}$ for condition $r^2_{y1} + r^2_{y2} > R^2_{y'12}$.

planation of per capita income changes by a set of population variables and a set of economic variables. From the analyses, we obtained an overlapping explanation of the two sets of variables, or the area *B* in Figure 3. We may have inferred interaction between population and economic variables by inspection of the correlation matrix, but we had no way of expressing the degree of this interaction, or of aggregating many correlations into one number, without first finding a "joint" explanation.⁵

Choice of Variables and Procedure

The dependent variable (*y*) was specified as the incremental change in state per capita personal income in the period 1940–50. These increments were not deflated.

The independent variables, *x*_i's, were necessarily restricted by the types of available data. The independent variables employed in the study were organized into two sets, as follows:

Z₁ Initial Population Variables (1940)

*X*₁ = Per cent of population, 14 years of age and over, in the labor force.

*X*₂ = Per cent of population, 25 years of age and over, having completed twelve or more grades of school.

⁵ The procedure has limitations in providing an estimate of interaction of population and economic variables. For example, we took no account of possible interactions within sets of variables, and our estimate will be biased if interactions of pairs of variables between sets are not of the same kind (i.e., both negative and positive interactions are present).

- X_3 = Per cent of population white.
- X_4 = Rate of natural increase in population.
- X_5 = Per cent of population rural.
- X_6 = Per cent of population 65 years and over in age.
- X_7 = Per cent of population 20-64 years of age.
- X_8 = Per cent of population less than 20 years of age.

Z₂ Initial Economic Variables (1940)

- X_9 = Percent of personal income from government.
- X_{10} = Per cent of labor force employed in agriculture.
- X_{11} = Per cent of labor force employed in mining.
- X_{12} = Per cent of labor force employed in construction and manufacturing.
- X_{13} = Per cent of labor force employed in other industries.
- X_{14} = Per cent of labor force unemployed.

In brief, the population variables, Z_1 , refer to the work force, education, race, population pressure (natural increase), residence, and age structure. The economic variables, Z_2 , relate to the employment structure (economic activities), including the unemployed, and the personal income from government. Many of these 14 independent variables, or reasonable substitutes therefor, have been used in other analyses of income differentials.⁶ There is, however, an apparent absence of any previous studies on this subject as large in scope, in terms of numbers and kinds of variables handled, as this one.

Some may question the selection of specific variables or measures of the phenomena under investigation. For instance, why enter variables that are simply linear combinations of others (such as the third variable of the age structure, X_8 , a residual)? The program employed in the partial correlation analysis permitted only the better of the two highly correlated variables to enter the regression. It also excluded variables that were linear combinations of other variables. In the step-wise procedure, the first independent variable entering the regression is the one having the highest simple correlation with the dependent variable. Thereafter, independent variables are chosen, consecutively, for entry on the basis of the highest explanatory power for the unexplained residuals. The final regression of each set was attained when no remaining variable could add as much as .01 per cent to R^2 .

Obviously, this study aggregated heterogeneous variables into single ones to depict sources of income or economic activities of the populations. Employment in agriculture, for example, includes that in forestry and fisheries;

⁶ Cf. Vernon W. Ruttan, "The Impact of Urban-Industrial Development on Agriculture in the Tennessee Valley and the Southeast," *Journal of Farm Economics* (February, 1955), pp. 38-56, and especially references cited in note 3, p. 39, of his article.

construction and manufacturing are combined; and "other industries" is a heterogeneous assortment of activities, mainly classified as tertiary production. Except for uniting construction with manufacturing, no violation of the traditional classification of primary, secondary, and tertiary production occurs in the specified economic variables. Personal income from government (X_9) includes income from transfer payments (a small percentage of which was private), military payrolls, and public disbursements to employed people.

Data for the regression analysis were assembled from the *Census of Population* and other published sources for the years 1940 and 1950, by states. The following three regressions were computed:⁷

- 1) $Y = f(Z_1)$
- 2) $Y = f(Z_2)$
- 3) $Y = f(Z_1, Z_2)$

Linear regression was used in all analyses. Knowledge of the relations was insufficient for postulating nonlinear models.

Findings

The relevant results of the statistical analyses are summarized in Table 1. In all, 23 regression equations were calculated, 3 being duplicates. Although Table 1 omits the regression coefficients, it indicates their signs and degree of significance. The R^2 of each of the equations is presented, even though the main interest here is in the R^2 for the final regression of each of the three sets.

Population Variables (Z_1).—The separate analysis of population variables (Z_1) gives an R^2 of .85 for the final equation. The population variables, in the approximate order of their relative importance in explaining variation in per capita income changes, were: age structure, race, residence, rate of natural increase in population, education, and per cent in the labor force. Furthermore, the age structure and the per cent of the population white, combined, accounted for about .80 of the .85 total explanation by the separate analysis of initial population variables (Z_1). Significantly, the age structure of populations is the most notable omission in previous efforts to explain income levels. Also, of those population variables generally included in explanations of low income, perhaps education has been over-emphasized. Nevertheless, such possible exaggeration does not necessarily

⁷ Regressions also were computed as follows: (1) $Y = f(Z_1, Z_2, Z_3)$, (2) $Y = f(Z_1, Z_2, Z_4)$, and (3) $Y = f(Z_1, Z_2, Z_3, Z_4)$, where Z_3 was change in population variables, X_1, X_2, \dots, X_9 , during the decade and Z_4 was change in economic variables, $X_9, X_{10}, \dots, X_{14}$, during the decade. These additional analyses did not seem to add information relating to our hypothesis; thus, the results were excluded from this paper.

TABLE 1

Summary of Results of Regression Analysis

Sub-Set (S)	Eq. No.	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	Variable ^a X ₉ X ₁₀ X ₁₁ X ₁₂					X ₁₃	X ₁₄	R ²
										Sign and Degree of Significance of Regression Coefficients ^b							
Z ₁	(1)																.6707
	(2)			+(1)				+(1)									.7351
	(3)			+(1)				+(1)	+(1)								.7970
	(4)			+(1)		+(2)		+(1)	+(1)								.8155
	(5)			+(1)	-(3)	+(1)		+(1)	+(1)								.8287
	(6)		+(3)	+(1)	-(2)	+(1)		+(1)	+(1)								.8417
	(7)	-(3)	+(3)	+(1)	-(1)	+(1)		+(1)	+(1)								.8533
Z ₂	(8)													+(1)			.4369
	(9)								-(1)					+(1)			.5359
	(10)								-(1)	+(4)				+(1)			.5457
	(11)								-(1)	+(4)				+(1)	+(4)		.5465
	(12)								-(1)	+(4)	+(4)			+(1)	+(4)		.5466
Z ₁ , Z ₂	(13-15)	Same as Equations (1)-(3)															.7970
	(16)			+(1)				+(1)	+(1)							-(1)	.8342
	(17)			+(1)				+(1)	+(1)							-(1)	.8530
	(18)	-(1)		+(1)				+(1)	+(1)							-(1)	.8857
	(19)	-(1)		+(1)	-(2)			+(1)	+(1)							-(1)	.9138
	(20)	-(1)		+(1)	-(1)		+(1)	+(1)	+(1)							-(1)	.9416
	(21)	-(1)	+(1)	+(1)	-(1)		+(1)	+(1)	+(1)							-(1)	.9690
	(22)	-(1)	+(1)	+(1)	-(1)	+(1)		+(1)	+(1)							-(1)	.9860
	(23)	-(1)	+(1)	+(1)	-(1)	+(1)		+(1)	+(1)						+(1)	-(1)	.9914

^a Variable X₈ did not enter; thus it was omitted.^b Degree of significance of b_i's indicated as follows: (1) $\alpha \leq .01$; (2) $.05 \geq \alpha > .01$; (3) $.10 \geq \alpha > .05$; (4) $\alpha > .10$.

reduce the significance of education in a remedial (policy) hypothesis on this phenomenon.

Economic Variables (Z_2).—The separate analyses of economic variables yielded an R^2 of only .55. Just two variables, X_9 (per cent of personal income from government) and X_{13} (per cent employed in "other" industries), were significantly related to income changes among states in the decade.

General prosperity in agriculture during the 1940–50 period, relative to other periods, may explain the failure of employment in agriculture to relate significantly to income changes. An analysis of other periods may reveal a significant negative relation between agricultural employment and per capita incomes by states or areas.

Population and Economic Variables (Z_1, Z_2).—The initial population and economic variables, considered together, explained about 99 per cent of the changes in per capita income among states during the decade 1940–50. Essentially, this means that the independent effect of the economic variables was an estimated 14 per cent contribution to the explanation. Similarly, the population variables furnished, independently, 45 per cent of the total explanation. Thus, the joint, or interdependent effects of both population and economic variables supplied an estimated 40 per cent explanation of the variation in per capita income changes. An alternative model and/or choice of variables could produce a higher explanation of per capita income changes than we obtained for economic conditions (Z_2). If, however, such were the case, we probably have an underestimate of the degree of interdependence of population and economic variables.⁸ These findings, nevertheless, are consistent with the hypothesis of this study that population and economic variables are interdependent in explaining per capita income changes among states.

Some Implications of the Findings and of the Hypothesis

To assume that sufficient evidence has been introduced to verify our hypothesis would be naïve. In particular, the possibility of spuriousness remains untested. Other hypotheses, however, set forth to explain income inequality also have not verified the implied spuriousness.

Two approaches for further research may warrant consideration: (1) studies designed to identify spurious and nonspurious relations among variables, and (2) studies designed to discriminate among hypotheses by comparing their consequences, where inconsistent, with empirical fact. Neither of these approaches have been used in previous studies. Instead,

⁸ In addition to this source of underestimation of interdependence, we have a biased estimate, in a downward direction, owing to the fact that 5 of the possible 48 interactions are opposite in effect upon R^2 from the other 43. Although the separation of these effects could be made, we did not do so.

their procedures provided little possibility for rejecting the guiding hypotheses. This small risk occurs from the innumerable possible sets of variables which, when related to income levels or changes, will produce a high R^2 . Perhaps, any hypothesis which includes variables yielding a high R^2 is adequate for some prediction purposes. But, in order to introduce a change in the situation, the guiding hypothesis for this purpose must adequately portray the causal ordering of the variables.

Our results indicate that, for the 1940-50 period, noneconomic factors outweighed the economic in explaining income trends among states. Has previous economic theorizing underemphasized the significance of human resource variables in economic development? From our results and hypothesis, we cannot defend the proposition that migration of people from low to high income areas necessarily has the effect of reducing the income inequality among areas. Migration has reduced the proportion of the people of working age in low income areas and has increased the proportion in this age group in the higher income areas. Possible consequences of this selectivity of migration with respect to age are: (1) a widening of the differences in productivity of populations among areas, (2) an interacting effect upon the economic structure tending to accentuate income inequality, and (3) a reduction in the potentialities of initiating economic development in low income areas. These consequences appear consistent with the social and economic facts describing trends and the present situation in our low income areas.

We do not take the position that lower rates of out-migration of people from the South than occurred during the past several decades necessarily would have resulted in less inequality of incomes than now exists. Human resources are necessary, but insufficient, for economic growth. Rather, in accordance with our hypothesis, one can defend the proposition that the potential for economic development within the Southern states would be much higher than it is if a higher proportion of the people in these states were of working age.

Our results also are inconsistent with the hypothesis that industrialization, as measured by manufacturing, is the "prime-mover" in economic development. Other research results appear more promising for this hypothesis, but such results known to us do not exclude the possibility that population and economic conditions are interdependent in explaining developments in income inequality. For example, in Tang's study of economic development in twenty counties of the Southern Piedmont, changes in both population and economic variables correlated with changes in income.⁹ Tang presented some facts to support the inferences that (1) population and

⁹ Anthony M. Tang, *Economic Development in the Southern Piedmont, 1860-1950*.

economic conditions were the same among the twenty counties in 1900, and (2) differences in these conditions existing in 1940 were due to differential rates of industrial development among the counties after 1900. Although he tried to establish the spuriousness of population variables with income changes as implied by his guiding hypothesis, he overlooked some facts about the differences in populations among the counties as early as 1900. We found the following significant differences in 1900 between the developed and underdeveloped counties, as he classed them, on the basis of 1940 agricultural income: (1) less illiteracy among whites 10 years old or over in the developed counties, (2) more Catholics and "nonfundamentalist" Protestant denominations, Episcopalians and Presbyterians, in the developed counties,¹⁰ and (3) higher per cent of the population urban in the developed counties. Also, we found, correlating with these population differences, greater capital investment per capita and per wage earner during 1900 in the current developed counties. We conclude that (1) the populations of the developed and underdeveloped counties were different in 1900, and (2) the developed counties had some economic advantages for industrial growth as early as 1900. We cannot conclude, as Tang did, that the large differences in population characteristics among the twenty counties, evident in 1940, were entirely the result of industrial development during 1900-1940.

A conclusion warranted from the analysis is that initial human and economic resources which a state or area possesses have long-run effects upon income growth. Although this study was confined to one decade only, much economic development occurred in the United States during that decade, yet the explanation yielded by initial conditions was very high. Also, it is known that, preceding 1940, states varied almost imperceptibly in rank with respect to per capita income changes over a considerable number of years. This observation is rather discouraging to those interested in policy measures as a means of stimulating a more rapid development of the relatively underdeveloped areas of our economy.

What are the main ingredients of such policy measures which will promote sustained economic growth? No one professes to know, but surely whatever policy measures are adopted should encourage, simultaneously, both economic and population conditions necessary for economic development in our present chronically depressed areas. Further, without an advancement of human resources accompanying the economic, there can be little hope for lessening the income inequality among areas within the United States.

¹⁰ Based upon the church census of 1890.

The Business Game as a Pedagogical Technique

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ROBERT HERRICK once wrote a poem entitled "To the Virgins, to Make Much of Time." It opens like this:

Gather ye rosebuds while ye may,
Old Time is still a-flying;
And this same flower that smiles to-day
To-morrow will be dying.

Although this is a love lyric, it also exemplifies the educational institutions of today. This thought was expressed in a different way, more sedately if not as vividly, by William B. Cornell when he defined the principle of improvement and adjustment as follows: "To be successful, a business must advance; it cannot remain dormant."¹ This principle, although applying directly to the realm of management, is also true of anything involving human beings; for nothing involving humans remains static.² Any living organ or organism must continue to improve or it will deteriorate, for no living thing can remain quiescent. This thought was also voiced by John Wendell Bailey when he said, "Learning is the temperance of youth and the greatest comfort of old age. Change is the law that governs all living things in all human institutions. We cannot stand still."³

The educational world of today is changing very rapidly. First, the educational institutions themselves are changing. New areas of study are being introduced and the relative position of existing disciplines is constantly shifting. During the next decade many innovations will occur in colleges and universities as more emphasis is placed upon scientific approaches to education. This change will not only occur in chemistry, physics, and engineering, but also in accounting, business administration, and economics.

¹ William B. Cornell, *Organization and Management in Industry and Business* (3d ed., The Ronald Press Company, New York, 1947), p. 53.

² Paul Pigors and Charles A. Myers, *Personnel Administration: A Point of View and a Method* (3d ed., McGraw-Hill Book Company, Inc., New York, 1956), p. 60.

³ John Wendell Bailey, "There is No Substitute for Scholarship," *Phi Kappa Phi Journal* (Fall, 1938), p. 7.

Greater stress will be placed upon "operations research," "linear programming," "electronic data processing," and the many other innovations that are emerging from, and predicated upon, mathematical concepts. If educational institutions are to achieve their goal, they must become less compartmentalized, and the invisible but very real walls that have been erected around areas of specialization must give way to a greater degree of integration and co-operation between related disciplines.

Second, the end product the institutions are producing is changing. The student of 1959 is vastly different from the student of 1949 or 1939; the student of 1969 will be equally dissimilar to those of today. With the present emphasis upon adult education and graduate work, the students have a greater diversity of interest, background, educational level, and intelligence. They are lacking, however, in the motivation that some of the past students have had. The student of today is better informed than the student of yesterday, for with the many communication devices at hand he is more informed about current events than were his predecessors.

Finally, the business world of today is demanding more accomplishment from colleges and universities. The top executives of the business world are demanding a greater degree of generalization, so that the prospective employees will be capable of performing executive duties as vacancies arise. At the same time, company recruiters are demanding a greater degree of specialization by employees in order to fill the job specifications that line executives demand. In summary, both executives and company recruiters are demanding a more educated, highly trained, mathematically inclined, and analytical student.

Teachers, therefore, must change their philosophies and concepts if they are not to be embarrassed by their students outstripping them. This change should also include teaching techniques and classroom manner.

What is the *goal* of teaching? One of the most recent books on college teaching gives it as: physical and mental health, ethical and moral quality, intellectual independence, deep intellectual interests, enlightened citizenship and economic competence.⁴

Dean E. B. Robert, College of Education, Louisiana State University, gives the following as the purpose of all teaching: to develop and improve attitudes, understanding, skills; to change behavior so far as feeling, knowing, or doing is concerned; to promote three types of learning—acquisition of information, appreciation, and refinement of skill.⁵

Dean James W. Culliton, University of Notre Dame School of Business,

⁴ Joseph Justman and Walter H. Mais, *College Teaching: Its Practice and Its Potential* (New York, Harper and Brothers, 1956), pp. 12-21.

⁵ E. B. Robert, "Guiding Principles Underlying All Effective Teaching and Learning," a talk before the Louisiana League for Nursing Education (January 27, 1955).

in discussing the functions of an undergraduate school of business, said that education consists of three things:⁶ information, knowledge, and action. The first of these—information—consists of facts and is encyclopedic in that it consists of other people's conclusions. The second of these—knowledge—is a critical appraisal of the facts or information from which the educated person draws his independent conclusions. Finally, the third—action—is deciding on a plan of what to do and how to do it.

We come now to the question, What is the relationship between these functions and teaching methods?

Information consists primarily of the manipulative skills. Many people believe that this area of education is not acceptable at the college level, but consider it "trade schoolish." This area of education can best be acquired by the more traditional teaching methods of lecturing, discussion, assigned readings, and other methods.

The second function of education—knowledge—deals with the intellect. Many people, primarily the "liberal education" people, believe in education for education's sake, or knowledge for knowledge's sake. They envision the acquisition of knowledge, regardless of its degree of utility, as the only purpose of an educational institution. Therefore, knowledge is the end product, and although information is necessary in acquiring knowledge, the utilization of the truths so gained is not a legitimate function of institutions of higher learning.

Most teachers in the area of business administration believe that the third function—action—is definitely a legitimate objective of education, for it involves the will, or volition, of the educated person in utilizing the acquired wisdom and knowledge. It is believed that information is necessary for knowledge, that information and knowledge are necessary for action, and that without action the first two are useless. This paper is predicated upon the assumption that *action is the primary reason for the existence of a college of commerce.*

In general, the freshman and sophomore levels of instruction at colleges and universities tend to emphasize information; the sophomore and junior levels tend to emphasize knowledge; and the junior-senior levels tend to emphasize action. The graduate level should emphasize all three areas simultaneously.

Assuming that teachers are aiming at action as their goal, how can they most successfully achieve this end? Behind all learning there must be motivation. Regardless of what teaching devices or techniques are used, regardless of how much knowledge of the subject matter the teachers have, regardless of the physical facilities used, the most important factor in teaching

⁶ An informal discussion with the 1958 Summer Case Seminar, Harvard Graduate School of Business Administration (August 1, 1958).

is motivation. Dean Robert, in stressing the importance of motivation to learning, said that the best learning is unitary, individual and social, purposive, self-active, creative, and transferable.⁷

The primary thesis of this paper is that one of the most effective teaching devices that can be used in reaching the previously mentioned goal is simulated business experience, or business gaming.⁸ This method meets all the requirements listed before. It is unitary in that its end goal is the making of a profit. It fulfills the social requirement in that there is group participation, or group dynamics. It is individual in that each person has an important place in the simulated organization. It is purposive because it involves the integrative processes of top level decision-making.⁹ It is self-active because the game itself creates the motivation that is necessary for effective learning. It is creative because of the challenge of playing against each other. It is transferable in that the knowledge acquired through the decisions made can be used to acquire knowledge and information in the other areas of study or practice.¹⁰

Although business gaming is new, the gaming concept is as old as mankind. The original purpose of games was entertainment. Military leaders, however, early recognized its potentialities for training and education and used it extensively for this purpose. As early as 1956 the concept of wargaming techniques were applied to business situations.¹¹ Since then, many varieties of games have been developed. They represent one of the most promising methods of teaching potential executives how to make decisions, how to live with their decisions, and how to profit by their mistakes without the limitations of large expenditures of time and money imposed by actual practice of any pedagogical device that has been developed to the present.

In essence, a business game is a mathematical model used to represent reality. In real life there are an infinite number of variables in a business situation. Some of these variables are controllable; some are not. In a business game, an attempt is made to simulate a situation to represent a set of relationships, incorporating certain variables from among a whole host of variables. The idea is to incorporate as many of these into the game as is feasible. Man himself is also a model, probably the most complex model there is. At one time, this model was called the "economic man"; since then

⁷ E. B. Robert, *loc. cit.*

⁸ Lawrence A. Appley, "Executive Decision-Making: A New Strategy" (December, 1957), p. 3.

⁹ Albert N. Schrieber, "Gaming—A New Way to Teach Business Decision-Making," *University of Washington Business Review* (April, 1958), p. 29.

¹⁰ Seymour Levy, Pillsbury Mills Incorporated, in a talk before the Fifteenth Annual Louisiana Personnel Management Conference, Louisiana State University (February 26, 1959).

¹¹ G. R. Andlinger, "Business Games—Play One," *Harvard Business Review* (March-April, 1958), p. 117.

many other designations have been given him. When there is an interaction between the man model with the mathematical model, simulating the relationships involved in a business situation, and incorporating as many variables as is feasible, then, a simulated business experience, or business game, exists.

But herein lies one of the dilemmas in using simulated business experience as a teaching device, that is, how realistic to become in constructing the game and still have it simple enough to be playable or manageable, for it is obvious that all the variables cannot be included. Yet, unless enough variables are included to make it realistic, then the value of the game is lost.

Another dilemma is how deterministic should the game be. In the actual business world a manager can control, or determine, certain variables, but there are other intangibles that are beyond his control and are forced upon him. This must also be true of a simulated business experience for it to be a valid learning experience.

In "playing the game" man interacts with a model in trying to solve selected business problems presented to him by the model. Each of the existing games has a different set of variables, with a different set of decisions to be made. For instance, the American Management Association and McKinsey & Company games include the same key elements—marketing, production, research and development, and so forth.¹² The IBM Management Decision-Making Model 1 requires decisions on price, marketing expenditure, and expected sales in each of four different areas.¹³ In addition, decisions must be made on expenditures for production, transportation, marketing, research and development, and plant investment.

To continue with the analogy of the game, the player makes the indicated decisions, based upon the information given him, and using his knowledge and judgment. This may take from twenty minutes to half an hour. The machine grinds out the results (or an umpire furnishes the results). Then, the player is able to see in a short period of time the consequences of his decisions. Now, as in real life, the player is faced with another predicament, that is, what to do in the new situation.

This process continues for as long a time period as is desirable, or practical. Almost all the games use a quarter of a year as the time interval for decision-making. This means that if four quarters are played, it is equivalent to one year of actual operation; ten quarters, two and one-half years, and so forth. This compression of time is one of the main advantages of gaming as a teaching device.

People learn through experiences which are intense, recent, and frequent. The gaming situation has a high degree of intensity, for almost invariably

¹² G. R. Andlinger, *op. cit.*, p. 115.

¹³ *Management Decision-Making Laboratory Instructions for Participants.*

the players become so involved that by process of transference they *become* the managers of the business. This transference leads to a terrific amount of involvement, for the students can visualize themselves in the actual situation. This furnishes built-in motivation, which is one of the most difficult problems of teaching. Among the other teaching concepts being advocated today are "interpersonal relationships," "group dynamics," and/or "behavioral sciences." In the business game all these are involved, for there are the same kinds of tensions, friendliness, helpfulness, competition, and stresses and strains found in the business world. There have been occasions of violent arguments and even reported instances of physical contact as a result of involvement in the games. Also, the game gives recency to the learning process, for the person is confronted almost immediately with the results of his decisions. Finally, the repeated process of making decisions, obtaining the results, and making another decision to cope with the changed situation supplies the necessary frequency to the learning process.

Another advantage of gaming is its value in integrating the different areas of study. For example, the value of research and development in a business organization is vividly illustrated in the McKinsey game. Similarly, the value of advertising and marketing expenses in relation to sales is demonstrated in the IBM Model 1.

During the initial stage of development of business gaming, the device was used primarily for executive and management development courses. Last semester, however, in the fall of 1958-59, an experiment was conducted at the Louisiana State University College of Commerce using the game as a summarization or concluding session for the regular students in two courses, an undergraduate class in production management and a graduate seminar in the fundamentals of management. The IBM Management Decision-Making Model 1 was used with an IBM 650 computer. The game was played at the last meeting of these classes, which met in the late afternoon and evening. (A three-hour period was used, whereas a much longer period of time should have been used for the game.) The purpose of the game was to serve as a summary of the principles and procedures taught during the semester and to integrate the various fields of production, sales, organization, personnel, and so forth.

The students were prepared by instructions given a week in advance with the request that they read the material before playing the game. The thirty graduate students were divided into three teams, and the same number of undergraduates were also divided into three teams with instructions to organize themselves into corporations. They were then provided with data concerning the results of operations during the preceding quarter and asked to allocate their limited available cash to production, transportation, marketing, research and development, and plant investment. They were asked also

to price the merchandise and to allocate the marketing costs among the four sales areas. After their decisions were made and the results tabulated, the procedure was repeated for four quarters.

The results of the experiment were indeed gratifying. The students were very reluctant to leave, even though it was 10 P.M. the night before final exams began; they wanted to play longer. During the following days, the students constantly came in to discuss the game with the teachers, and one could see groups standing in the halls talking about their experience. In summary, the motivation and involvement shown by the group in this situation was extremely high.

The gaming technique has many advantages; there are, however, certain limitations. First, the teacher must be very careful not to let the results of the game (in dollars and cents) be an end within itself but must emphasize its teaching and learning aspects. A second limitation is the restricted number of variables that can be included and the game still remain playable. A third limitation is the fact that the game is only partly deterministic and partly probabilistic. This means that some of the results can be determined by the student himself while others, to varying degrees, are determined by the laws of probability or chance. The fact that it is a game, with a termination time, induces the participants to "play the odds," that is, the later they go in the game, the less they put into plant expansion and research and development because they know the benefits from such expenditures will pay off only in the long run. They take wild chances by cutting the price and upping the marketing expenditures in order to make a quick "killing" before the game is over.

Finally, a very practical limitation is the cost involved. Using an IBM 650, the rate is \$100 per hour at commercial rates. Although the educational rates are cheaper, the amount involved is still considerable.

There are certain things that should be done in order to make the game more effective as a teaching and learning device. First, the game should be played over an extended period of time—a semester, a month, or a week in order to allow time for maturation between the quarters. As part of the value of the game is the discussion and evaluation of the errors that were made, it seems that if more time is permitted between the quarters, the learning value would be enhanced.

Second, more time should be devoted to preparation, particularly to the mechanics of the game. In most gaming situations too much time and emphasis are given to details, such as preparing the forms.

Third, the teacher or leader should become more involved. By this is meant that he should circulate among the participants and explain to them what they are doing right or wrong and how the different phases of the game apply to the different areas of study.

Finally, a critique should be held immediately following the termination of the game. At this time, the teacher should lead the discussion with the participants pointing out what they learned, and, just as important, what they did not learn.

Summary and Conclusions

In summary, the business world and the educational world are in a constant state of flux. The demand for, and the supply of, the product being turned out by educational institutions in the form of educated students is also changing. Teachers, therefore, must change their attitudes and philosophies and also change their teaching techniques to conform to the evolutionary process. One of the greatest problems facing educators at all levels is motivating students to become involved in the learning process. Almost equally as important in the field of business education is educating students in the art of decision-making, with particular emphasis upon the mathematical and analytical processes.

There are many new and old teaching devices that can be used. Included in these are the lecture, discussion, case, role-playing, and business-gaming devices. Without discussing the relative merits or demerits of the other teaching techniques, the business-gaming technique is one of the best methods available today—and in the foreseeable future—for obtaining motivation, involvement, and learning the art of decision-making.

The business game is a mathematical model, used by a natural model, man, to solve simulated business problems. It is a simulated situation because the game attempts to introduce as many variables as possible in order to resemble most nearly the actual business world, while at the same time restricting the number of variables so that the game is simple enough to play.

For the game to be most useful as a teaching device there must be transference of knowledge from the gaming situation to real situations. The value of simulation is also dependent upon how realistic the game is, for the nearer it approaches reality the more effective it is as a pedagogical device.

Simulated business experience also leads to an understanding of the integrated processes of top level decision-making, for by a process of transference the participant *becomes* the manager and sees the effect of his decisions. The games also teach a great deal about human relations and organization factors.

In summary, it must be emphasized that business gaming is a major advancement in training and education, particularly in the realm of business education. However, regardless of the teaching devices used, truly effective teaching depends upon the quality and the abilities of the individual teacher himself.

Business Administration Curricula and the New Research Techniques

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THE "NEW" BUSINESS RESEARCH TECHNIQUES included in this discussion are those which comprise the subject matter of operations research. Since there is some difference of opinion regarding the exact nature of the techniques to be included under the heading "operations research," I further define the techniques to be linear programming, game theory, input-output analysis, queuing theory, inventory models, replacement models, and bidding models. It may be objected that input-output analysis is an econometric analytical table which does not belong in a discussion of operations research. I include it here primarily because of its mathematical relationship to linear programming and game theory.

A brief historical review tracing the development of quantitative methods of analysis of business data will be helpful in categorizing and discussing the new techniques. Although economic statistics of various kinds have been compiled for centuries, I shall take as a beginning point the year 1839. The American Statistical Association was organized in 1839 with five charter members.

Statistics as an aid to administrative decision-making did not receive widespread attention until the First World War. The amount of effort required to prosecute a war of such magnitude required a degree of attention to the allocation of resources which, in turn, placed a great strain on the sources of quantitative information concerning economic variables that were then available. As a result, an acceleration in the production of business data and in the development of statistical measures of business change, particularly index numbers, took place.

During the decade of the 1920's, statistics, statisticians, and statistical techniques proliferated. Membership in the American Statistical Association expanded rapidly. One of the outstanding features of this period was the great interest in, and expansion of, the number of index numbers. Irving Fisher's monumental *The Making of Index Numbers* was published near the beginning of the decade (1922) and had a widespread influence. Another prominent characteristic of the period was the interest in developing

time-series analysis along the lines suggested by Warren Persons, who advocated separating the data into its trend, seasonal, cyclical, and random components.

There was great hope that the new tools of analysis would make possible accurate long- and short-range forecasts of business activity. Much effort was expended in the search for leading series that would give timely warning of a cyclical downturn. *The Harvard Index Chart of General Business Conditions* was one of the more widely discussed of these forecasting devices. Three series generally referred to as the A, B, and C series were plotted on the Index Chart. The A series was an average of the movements of stock prices, representing speculation. Wholesale commodity prices were the data for the B series. Prices in the money market, as represented by the rates on sixty- to ninety-day commercial paper, made up the C series. The theory was that changes in the business outlook would be reflected first in the A series, then communicated to the B series, and, finally, would affect the C series. In the test period, upon which the validity of the arguments for the curve was based (1903-14), turning points in the A curve preceded those of the B curve from six to ten months. Turning points in the B curve preceded those of the C curve from two to eight months. During the 1920's the series did not perform in a consistent manner, especially after 1923. It gave no advance warning of the 1929 crash. Eventually it was dropped.

Disillusionment with the existing methods of analysis of time series led to a search for better tools. Always it was the hope of the searchers that some solution to the problem of accurate business forecasts would result from their efforts. Since single equation models—for example, trend lines—did not seem to be the solution, the next logical step was to find multi-equation models. The group of men who were foremost in investigating multi-equation stochastic models formed a separate organization, the Econometric Society, in December, 1930.

It was not the primary purpose of the founders of the Econometric Society to solve the problem of forecasting. Rather, they set for themselves the larger goal of "the measurement of economic parameters that are only loosely specified in general economic theory" in order to "make the general ideas of the great thinkers in the field of economic theory more specific and more applicable to the facts of economic life."¹ If this general objective could be attained, the resulting quantification of economic relationships should make the task of the forecaster and policymaker a much easier one.

It was felt at the time that economists and business analysts were spending too much time collecting statistics and not enough time constructing a

¹ Trygve Haavelmo, "The Role of the Econometrician in the Advancement of Economic Theory," *Econometrica*, Vol. 26, No. 3 (1958), pp. 351, 352.

theoretical frame of reference which would assist in interpreting the observations. As the first editor of *Econometrica* remarked in 1933:

Statistical information is currently accumulating at an unprecedented rate. But no amount of statistical information, however complete and exact, can by itself explain economic phenomena. If we are not to get lost in the overwhelming, bewildering mass of statistical data that are now becoming available, we need the guidance and help of a powerful theoretical framework. Without this no significant interpretation and coordination of our observation will be possible.²

It was proposed to use an approach based on statistics, economic theory, and mathematics to erect the desired framework. The process of building the framework has been in progress for almost a generation since the organization of the Society. It is still in progress.

While the two quantitative disciplines, statistics on the one hand and econometrics on the other, were developing at a rapid pace, the Second World War intervened and resulted in the birth of a third discipline—operations research. The British were the first to use what is now called operations research, or operational research (their term for it), during the Second World War. The techniques were an outgrowth of a systematic attempt to apply the methods of science to military operations. When the United States entered the war, some ranking members of our armed forces learned of the British success with the new methods and adopted them. During the war these studies were highly classified material. It was some time after the end of the war before the restrictions on dissemination of much of the material were removed.

As late as 1951 there were few in the United States outside of the military establishment who had heard of Operations Research. Security regulations were largely the cause of this condition. Organization of the Operations Research Society of America in May, 1952, for the purpose of advancing the science of operations research facilitated the dissemination of information about, and creation of, interest in this new subject. Articles in the journal of the Society have dispelled the notion that the new field of activity is simply a fad or a special field of application of some one of the older disciplines, such as mathematics or physics.

Subsequent to the establishment of the Operations Research Society interest and activity in this new field have expanded at a rapid rate. Articles popularizing the subject appeared in *Fortune*, the *Harvard Business Review*, and other periodicals widely read by managers and the general public. New publications of a professional nature, e.g., *Management Science*, have appeared in order to satisfy the demand for information on the subject. Membership in the Operations Research Society is now numbered in the thou-

² Ragnar Frisch (ed.), "Editorial," *Econometrica*, Vol. 1, No. 1 (1933), p. 2.

sands. A perusal of the 1958 *Directory* of the Society indicates that membership is drawn from a wide diversity of fields in the physical and social sciences and from employees of a wide range of business organizations.

Curricula in operations research have been established in a number of higher educational establishments. In June, 1956, just four years after the founding of the Operations Research Society of America, the following schools had curricula leading to graduate degrees:³

Carnegie Institute of Technology	The Ohio State University
Case Institute of Technology	Purdue University
Columbia University	The Johns Hopkins University
Cornell University	University of Michigan
Massachusetts Institute of Technology	University of Pennsylvania

These curricula were usually in the department of industrial engineering or its equivalent. At Massachusetts Institute of Technology the program was administered by an interdepartmental committee on operations research.

Schools offering courses in operations research in June, 1956, but which had not reached the point of offering degrees in the area were:

American University	University of California at Los Angeles
George Washington University	University of Minnesota
Harvard University	University of North Carolina
Illinois Institute of Technology	University of Pittsburgh
Iowa State University	University of Southern California
Northwestern University	University of Tennessee
Oregon State College	University of Toronto
Pennsylvania State University	University of Washington
Rensselaer Polytechnic Institute	Wayne University
Stanford University	Yale University
University of California	

These twenty-one schools plus the preceding ten make a total of thirty-one pioneers in the teaching of operations research. While not all of them are technical schools, it is probably true that most of the courses were taught in the engineering department, not in business administration.

In addition to the degree-granting institutions listed above, the U.S. Naval Postgraduate School at Monterey, California, and the U.S. Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio, had courses in operations research when the 1956 study of operations research education was made.

No similar listings of schools offering courses in operations research have been made since 1956. In one of its publications in 1958, the Society said that "the number of institutions of higher learning offering courses in, or

³ "Conference on Operations Research Education," *Operations Research*, Vol. 4, No. 3 (1956), p. 379.

related to, operations research is too great for convenient listing."⁴ The first twenty pages of the sixty-four page 1958 *Directory of the Operations Research Society of America* show members giving institutions of higher learning as their addresses for such schools as

North Carolina State College	University of Georgia
Virginia Polytechnic Institute	University of Colorado
Oklahoma State University	University of Denver
New York University	University of Chicago
California Institute of Technology	Lamar State College
Kent State University	Institute for Advanced Study
Syracuse University	Rutgers University
Drexel Institute of Technology	University of Houston
University of Idaho	United States Naval Academy
Catholic University of America	Temple University.
Tufts College	

Skipping over to page 64 we find the University of Maine and the University of Kentucky.

Relatively few of the individuals listed in the 1958 *Directory* of the Society are in schools of business. Most are in engineering, mathematics, or the physical sciences.

In order to discover the impact of operations research on business management, we may consult the *Directory* of the Society and note the large number of members who are working in industry or for management consulting firms. Or we may consider the results of a study made by the American Management Association in February, 1957, of industrial uses of operations research. Questionnaires were sent to 5,325 individuals representing 3,150 companies.⁵ The response for companies was 20 per cent, representing 631 different firms. It would be unsafe to assume that all of the non-respondents are not engaged in operations research.

Those companies that responded showed a 51.3 per cent usage ratio (324 companies) of operations research. Principal consumers of operations research services in descending order of number of companies (data in parentheses show number of companies) were:

- Chemical and allied products (65)
- Electrical and electronic goods (51)
- Machinery (including motor vehicles) (44)
- Miscellaneous manufacturing (33)

⁴ *Information on Operations Research and the Operations Research Society of America* (Baltimore, The Operations Research Society of America, 1958), p. 10.

⁵ David Bendel Hertz, "Industrial Operations Research in the United States," *Operations Research Reconsidered*, American Management Association Management Report No. 10 (New York, American Management Association, Inc., 1958), p. 23.

Miscellaneous nonmanufacturing (27)
 Metals (25)
 Aircraft manufacturing (19)
 Food (18)
 Utilities (17)
 Banking and insurance (11)
 Transportation (8)

It is interesting to note the areas of application of operations research in these companies. The responses showed the following areas of application:

	<i>Company or application</i>
Production	152
Long-range planning	145
Sales and marketing	136
Inventory	135
Transportation and shipping	95
Top management	92
Research	90
Finance	87
Accounting	72
Purchasing	50
Personnel	48
Advertising	20

Few of these applications are of the kind that we associate with engineering or mathematics. All of them fall somewhere, and to a large extent, within the subject areas taught in the business school curriculum.

When asked to evaluate operations research within their own companies, representatives of 167 companies (of the 288 that answered the question) felt that it was too soon to give an evaluation. Of the remainder, 75 stated that the result of the operations research program had been a considerable improvement in operations; and 55 said appreciable savings had resulted. (There were multiple answers from some companies, as the total number of responses is 297, not 288.) Few companies that had tried operations research felt it had failed them. Generally these were small companies. Thus far, operations research has been most successfully applied by large companies. The conclusion of the study is that operations research is firmly established in American industry.

What effect has this intellectual ferment had on the business administration curriculum? Not a great deal. Present standards for full membership in the American Association of Collegiate Schools of Business require that

"as the foundation for training in business administration, instruction shall be offered in the fields of economics, accounting, statistics, business law, finance, marketing, and management."⁶ This is a minimum, not a maximum, requirement. The Association encourages the development of new programs and constructive revision of existing programs. It is too soon for operations research to be considered as part of the basic program. It is not too soon for consideration of the addition of courses in operations research at the senior and graduate level. Every business school that offers a program in statistics or management has a duty to consider the addition of these courses.

It may be objected that a business college is not a suitable place to teach courses in operations research. Leave it to the engineers! There is support for this view in a recent statement of the Education Committee of the Operations Research Society of America. The opinion of the committee was that the average business student is insufficiently trained in mathematics and science to permit "fulfillment of the objectives outlined"⁷ for a professional operations researcher. It was further stated that "consumers and administrators of OR can utilize short courses and management seminars to learn 'about' OR." You might just as well say that consumers of accounting statements should learn "about" accounting in short courses and seminars! Further, this statement ignores the large group of students taking combined business administration and engineering degrees who can be taught applied operations research as well in the business school as elsewhere.

There remain, however, those students in the business schools taking programs calling for the minimum six semester hours of preparation in mathematics. Are they suitable material for an operations research course? The top 20 to 25 per cent of them would be if they could be given a substantially different course in first-year mathematics plus an additional three to six semester hours of a specialized course. These courses might be provided within the framework of an "honors" degree plan for the more able students.

The first-year course for the honors students should emphasize matrix algebra, analytic geometry, elementary probability theory, and applications of mathematics to the social sciences rather than to engineering and the physical sciences. The second year should emphasize those parts of differential and integral calculus applicable to the social sciences and operations research. It should include some elementary theory of differential equations. I do not believe that this is impossible or impracticable. There are books

⁶ The American Association of Collegiate Schools of Business, *Constitution and Standards for Membership* (1958), p. 4.

⁷ Education Committee of the Operations Research Society of America, "Report of the Education Committee," *Operations Research*, Vol. 6, No. 4 (1958), pp. 604-605.

available that could be used as texts in both courses. Students with such a background would provide an excellent group from which graduate schools could draw candidates for advanced degrees.

It might be further objected that, granting the above arguments, operations research does not belong in the business curriculum because it is a fad. After all, 324 companies out of 631 respondents from a sample of 3,150 is not so many. However, these 324 companies are those with aggressive managements. Another 144 companies answered that they intended to begin using operations research. The aggressive companies that are willing to try new methods set the standards for the rest of industry. Thirty years ago few companies had statisticians or economists as part of top management staff.

The failure of econometrics to cause any basic revision in business school curriculum (e.g., mathematics requirements) may be cited by analogy as a reason for ignoring the problem of courses in operations research. This is not a good analogy. Econometrics has not shown the way to solution of management problems with any great degree of success. Operations research has. Management in industry today has seen examples of major contributions by operations research to problems of resource allocation, gasoline blending, transportation cost reduction, and other difficult decision problems. Industry determines the market for business school graduates to a large degree.

In the vital area of business research it is clear that research techniques are based more and more upon mathematical models. It seems certain that the best hope for future progress lies in the application of more sophisticated mathematical ideas to intra-and inter-firm problems. Both operations research and econometrics have something to contribute here. Unless business school graduates with advanced degrees are trained in these methods, fewer research opportunities will be open to them. The table of areas of application of operations research in the American Management Association survey is composed entirely of areas in which business school graduates expect to do research. Most of the present generation of graduates will not be able to communicate with their competitors from the engineering schools. Further, they will be handicapped in seeking research positions because of their lack of ability to apply the new techniques when they are needed and their lack of ability to judge where these techniques are applicable.

It seems certain that business schools must adopt these new techniques and make the necessary alterations in curriculum to provide at least the top students with training in their uses. If they do not, they will find a narrowing range of research opportunities open to their graduates. Further, key staff positions in industry will be pre-empted by more and more practitioners of the new techniques.

Term Structure of Yields, Financial Intermediaries, and Contracyclical Monetary Policy

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DURING THE PAST TWO OR THREE YEARS, serious doubts have been increasingly expressed in the literature about the present efficacy of traditional quantitative monetary controls in this country.¹ Predominantly, these doubts rest upon the perverse variability of the velocity of money and the apparent inability of quantitative instruments to compensate for it adequately.² The perverse variability of velocity is in turn associated with the growing importance of financial intermediaries other than commercial banks³ and the inverse relation between interest rates and the acceptable money-security ratio in the economy.⁴

This paper represents an effort to illuminate both the limitations of, and most fruitful approaches to, monetary control, given our present financial structure, through an examination of the theory and significance of the term structure of yields on financial instruments. The argument is based upon an approach to the theory of yield structures which lends itself to integration with three other directions of inquiry into current monetary problems: the

NOTE.—The author gratefully acknowledges his indebtedness to Dr. Charles E. Walker, vice-president and economic adviser, Federal Reserve Bank of Dallas, and Professor Dudley G. Luckett, Iowa State College, for permission to study unpublished materials prepared by them and for helpful comments regarding the present topic. However, the author alone is responsible for the views here expressed.

¹ Illustrative examples include J. G. Gurley and E. S. Shaw, "Financial Aspects of Economic Development," *American Economic Review*, Vol. XLV (September, 1955), and *idem.*, "Financial Intermediaries and the Savings-Investment Process," *Journal of Finance*, Vol. XI (May, 1956); W. L. Smith, "On the Effectiveness of Monetary Policy," *American Economic Review*, Vol. XLVI (September, 1956); H. P. Minsky, "Central Banking and Money Market Changes," *Quarterly Journal of Economics*, Vol. LXXXI (May, 1957); J. W. Angell, "The Monetary Standard: Objectives and Limitations," *American Economic Review*, Vol. XLVIII, Proceedings Issue (May, 1958).

² E.g., Smith, *op. cit.*, p. 600; Angell, *op. cit.*, p. 81 n.; and Minsky, *op. cit.*, *passim*.

³ Especially by Gurley and Shaw, *op. cit.*

⁴ See Minsky, *op. cit.*, on the role of institutional innovations in increasing velocity, particularly under conditions of protracted quantitative restraint; also Angell, *op. cit.*, p. 81 n.

growth and significance of financial intermediaries other than commercial banks, the relation of interest rates to the money-security ratio in total financial assets, and the cyclical pattern of flows of funds among sectors of the economy.⁵ Emphasis here is placed upon those variations in yield structures and the monetary control problem associated with economic fluctuations. In general, it is argued that the efficacy of monetary policy actions is in part determined by the yield structures, as distinct from the average yield levels, produced by such actions; that, therefore, the potency of Federal Reserve quantitative instruments can be increased by deliberately using them to influence yield structures in contracyclically appropriate ways.

Approaches to the Theory of the Term Structure of Yields

The following presentation draws upon two different, but not incompatible, approaches to the theory of yield structures. The first and more widely followed, which may be called the "expectations approach," has been classically stated by Friedrich A. Lutz.⁶ Abstracting from investment costs, risk and specific asset preferences on the part of investors, but assuming specific liability preferences on the part of borrowers,⁷ Lutz views the yield on long-term debt as an alternative to a succession of short-term yields. Accordingly, an investor would buy a long-term instrument only if its yield to maturity, or to some contemplated selling date, were equal to or above the yield he could expect to derive from successively investing in short-term securities over the period of the long-term investment. From this approach it follows that whenever the marginal supplier of long-term funds expects the average of future short rates to be above, equal to, or below the present short rate, the current long rate for the expectation period will correspondingly be above, equal to, or below the current short rate. Since the average of expected future short rates cannot be much affected by the current short rate, long rates tend to be much more stable than short rates.

While I do not accept this theory as a wholly adequate explanation of rate structures, for reasons made apparent in the following discussion, I, of course, recognize that expectations about future yields do have a most significant place in any adequate explanation.⁸ That place is considerably il-

⁵ Important examples of the first two directions of inquiry are found in the literature cited above. The third is illustrated by J. C. Dawson, "A Cyclical Model for Postwar U.S. Financial Markets," and Stephen Taylor, "An Analytic Summary of the Flow-of-Funds Accounts," both in *American Economic Review*, Vol. XLVIII, Proceedings Issue (May, 1958).

⁶ "The Structure of Interest Rates," *Quarterly Journal of Economics*, Vol. LV (November, 1940), reprinted in American Economic Association, *Readings in the Theory of Income Distribution*, 1949.

⁷ *Ibid.*, *Readings*, p. 518 n.

⁸ C. E. Walker finds the expectations theory fruitful in analyzing monetary policies in the postwar period. See his "Federal Reserve Policy and the Structure of Interest Rates on Government Securities," *Quarterly Journal of Economics*, Vol. LXVIII (February, 1954).

luminated by the second approach, upon which this paper draws, which I shall call the "market composition approach." It is perhaps most thoroughly and clearly illustrated in a work by Joan Robinson.⁹

Since, for some meaningful purposes, current stock yields may be and often are regarded as a special type of long-term interest rate and are in any case interdependently related to bond yields, stock yields are included by Mrs. Robinson in the yield structure to be explained. Abstracting from relative yields, she postulates that investors and issuers have definite preferences as to the term composition of their financial assets and liabilities. These preferences, which reflect the properties of the several instrument terms on the one hand and the status—legal, economic, and psychological—of investors and issuers on the other, may be overcome at the margins of each preference group by changes in relative yields. The yield structure arises out of the process of "matching" offered and demanded securities of different terms at a given time and place. "Composition of the market" is an expression¹⁰ of the relative proportions in the market of investors and issuers having given asset and liability term preferences, weighted by the funds potentially flowing out of or into their respective hands on capital account. As either preferences or relative participations in the market change, so does market composition and the resultant yield structure. Expectations about future yields are one of many factors affecting both preferences and relative participations in the market, hence yield structures.

Nonetheless, expectations about future yields may be quite significant—even predominant—in shaping yield structures, particularly when they are rapidly being changed by a large proportion of market participants. Hence the importance of factors that influence the formation and revision of expectations. Mrs. Robinson stresses the influence upon expectations of long-term rates deviating significantly from what participants in the market have come through recent experience to regard as the "normal" rate. Thus, the farther long-term rates deviate from their supposed "normal" level, the more widespread and intense become expectations that they will soon turn back toward the "normal" level. In this observation we are provided with an enlightening suggestion for analyzing the cyclical behavior of yield structures.

For a contrary view, see J. M. Culbertson, "The Term Structure of Interest Rates," *Quarterly Journal of Economics*, Vol. LXXI (November, 1957).

⁹ "The Rate of Interest," *Econometrica*, Vol. XIX (April, 1952), reprinted in Robinson, *The Rate of Interest and Other Essays*, 1952. J. M. Culbertson, *op. cit.*, provides another example, though his emphasis upon the liquidity property of different maturities leads to a somewhat narrower view of asset and liability preferences than Mrs. Robinson's.

¹⁰ The present author's expression, not Mrs. Robinson's.

The Present Theoretical Framework

A. General.—In my synthetic approach, I follow Mrs. Robinson's procedure of including stock yields in the general term structure to be discussed. Accordingly, my subject structure is that of yields on the range of obligations from short-term debt to corporate equities, as reflected in the impersonal markets for relatively standardized primary instruments: bills, bonds, and stocks. Also following Mrs. Robinson, I emphasize those qualitative aspects of market composition which reflect investors' and issuers' preferences as to term composition of financial assets and liabilities. In this connection, I hold financial intermediaries to be significant modifiers of the process of "matching" offered and demanded securities of different maturities and thus to be significant contributors to the shaping of yield structures. Expectations about future yields are not assigned an independent role in shaping yield structures, because, in my view, both the character and effects of expectations depend upon the qualitative nature of market participants. It is this emphasis upon the qualitative composition of the market, including the presence of financial intermediaries, that distinguishes the present theory.

I shall now enlarge upon some of its details, examining factors which influence market composition on the side of both issuers and investors and then stating the role of expectations in the context of modern market composition.

B. Issuers of Primary Instruments.—Private issuers of primary instruments are subject to relatively severe constraint in choosing among different terms. Uncertainty as to the conditions under which short-term debt may in future be renewed, or long-term debt bought up and retired, leads to the selection of maturities that reasonably conform to the earning periods of real investments being financed. In the case of long-term corporate projects, the choice between bonds and stocks is subject to strong conventions and managerial prejudices, as well as rational tax and income-uncertainty considerations, which vary from one industry to another. Consequently, neither the choice between debt and equity issues nor that between short- and long-term debt obligations is highly sensitive to relative yields.¹¹

State and local governments rarely issue bills, restricting their debt almost entirely to bonds.¹² The central government, however, usually commands such standing in the market that it can within wide limits choose between short and long maturities as a matter of policy.

The term structure of primary instruments offered by issuers is therefore

¹¹ However, it will be argued below, pp. 55-58, that these choices may become yield-sensitive at certain critical yield levels in relation to *expected* yield levels.

¹² Of course, they may choose to emphasize longer or shorter maturities within the bond category, or to distribute maturities by means of the serial issue device.

heavily influenced by (1) the ratio of private to public financing, (2) the ratio of short- to long-lived private projects, (3) the industrial composition of private financing, and (4) the debt management policies of the central government. National debt management policies aside, it is not highly sensitive to relative yields.

C. Investors and Financial Intermediaries.—The simplest market exists when all finance is direct, that is, with issuers placing primary instruments directly with investors. The yield structure in this case arises out of the mutual efforts of issuers and investors to match their wants through the agency of financial instruments which become at once the liabilities of issuers and the assets of investors. It is the function of *trading* intermediaries to facilitate the process of bringing issuers and investors together upon mutually satisfactory terms through appropriate adjustments in relative yields. The speculative positions of dealers themselves contribute to the process.

However, *transforming* intermediaries, such as banks,¹³ savings and loan associations, life insurance companies, and investment funds, have a different function and a different effect upon yield structures. They seek to bring issuers and investors together not by purchasing instruments from the former for the account of or for resale to the latter, but by purchasing one kind of obligation and selling another. They purchase primary securities and other, more personalized, forms of direct debt, and they offer to private investors their own obligations, or indirect debt.¹⁴ Investors and issuers are permitted to have the kinds of assets and liabilities they respectively wish without the necessity for the assets and liabilities to be obverse and inverse of the same instruments. Accordingly, less of the burden of mutually satisfying issuers and investors rests upon adjustments in relative yields.

In general, to private investors, the obligations of transforming intermediaries are assets which have more convenience (liquidity, in Mrs. Robinson's sense¹⁵), less lender's risk, and more capital and income certainty than the forms of direct debt that such investors might alternatively buy. Some forms of indirect debt substitute for money, some for short-term securities, and others for bonds and corporate shares. In the light of these different

¹³ For present purposes I find it useful to accept the Gurley-Shaw view of commercial banks as one of many financial intermediaries. They are "transforming intermediaries" in that they issue one form of debt in order to acquire other forms. Moreover, under the assumption that the monetary authorities allow the "appropriate" growth of demand deposits, which is a matter of the amounts of demand deposits the public wishes to hold in relation to other forms of financial assets, public investments in demand accounts may be viewed as the source of banks' loanable funds. See Gurley and Shaw, "Financial Intermediaries and the Savings-Investment Process," *Journal of Finance*, Vol. XI (May, 1956), pp. 261-262.

¹⁴ "Transforming intermediaries," in the present author's terminology, correspond to Gurley and Shaw's "issuers of indirect debt." (*Op. cit.*)

¹⁵ *The Rate of Interest and Other Essays*, p. 6.

asset qualities and relative yields, private investors allocate their funds among the many forms of obligations, both direct and indirect, available to them.

The sensitivity of allocations to changes in relative yields is limited by two peculiarities of the market with respect to transforming intermediaries. First, the latter make a continuous tender of their debt at yields that are not subject to frequent or wide variations, in some instances due to regulation. With few exceptions, they build and retain customers through advertising, sales effort and proffered conveniences, rather than through yield competition as such. Second, some purchases of indirect debt are legally compulsory, contractual, or associated with receiving a separately valuable service, e.g., contributions to O.A.S.I. and other retirement plans and payment of life insurance premiums. In consequence of both of these peculiarities, the flow of funds into the hands of transforming intermediaries is relatively stable and rather insensitive to changes in the relative yields of indirect and direct debt forms.

The asset preferences of transforming intermediaries are quite specific and strong. The function of transforming debt demands that intermediaries' asset portfolios be consistent with the nature of their obligations. Moreover, given institutions were created for particular financial functions. Both circumstances lead to management attitudes, customs and legal restraints of a comparatively rigid sort. In keeping with their respective functions, transforming intermediaries tend to specialize in one or more forms of direct debt, often those of a semipersonalized nature (e.g., commercial loans, consumer credit, and home mortgages). They undertake to buy such specialized debt as it is offered to them by suitable issuers and to do so on the basis of relatively stable yields. So committed are they to relatively stable yields, on both preferred specialized debt and their own obligations, that they typically resort to sales from security portfolios and to credit rationing when the tender of specialized debt to them is in excess of the current lending capacities. Similarly, when their current lending capacities exceed the tender of specialized debt to them, they prefer to invest the balance in assets possessing a high degree of capital certainty, so as to facilitate a later shift back to specialized debt as opportunities present themselves. Since the flow of funds into their hands is relatively stable, cyclical variations in the demand for their credit result in pronounced movements into and out of short-term primary instruments in recessions and booms respectively, thus exaggerating the relative swings of short-term rates.

The general effect of transforming intermediaries is to remove by one degree the suppliers of a large fraction of total loanable funds from the primary securities market. To that extent they substitute their own institutional preferences in such markets for the preferences of those investors who hold

their (indirect) debt. Accordingly, the composition of demand for primary securities depends upon (1) the preferences of individual investors between direct and indirect debt and among the various forms of each, and (2) the preferences of transforming intermediaries among forms of specialized debt and primary securities. Given the rigidities of investor preferences for indirect debt forms and of intermediary preferences for direct debt forms, the behavior of yield structures can be substantially altered by change in the relative importance of transforming intermediaries.

D. Central Bank Purchases and Sales.—Composition of the market is affected not only by the preferences of issuers, investors and intermediaries, but also by the instruments preferred by the central bank in effecting open market transactions intended to alter the reserve position of the commercial banking system. The impact of open market operations depends upon (1) the instrument preferred for these purposes by the central bank, (2) the coefficient of expansion of bank credit on the basis of fractional reserves, and (3) the asset preferences of commercial banks. Other central bank techniques of influencing bank reserves significantly affect market composition only through items (2) and (3). It is worth emphasizing that the larger are average reserve requirements, the larger is the impact upon market composition—and yield structures—of central bank preferences relative to commercial bank preferences.

E. Economic Fluctuations and Expectations about Future Yields.—Fundamentally, a given yield structure is a matter of the qualitative nature of market participants and their preferences. It represents, for a given time and place, the terms upon which buyers and sellers of primary securities mutually satisfy their respective financial asset and liability wants. Since the qualitative nature of market participants reflects the pattern of the economy's development, and more particularly the evolution of private and governmental financial institutions, typical yield structures are themselves evolutionary. There is no specifiable "natural" structure.

However, yield structures do exhibit fairly regular cyclical movements. In a cyclical rise, both long- and short-term rates normally increase, the latter more rapidly, while stock yields decline. In a cyclical decline both long- and short-term rates normally fall, the latter more rapidly, while stock yields rise. From trough to peak to trough again, the pattern is one of convergence, then dispersion, of yields. To this behavior I believe that expectations about future yields, which always influence present yield structures in some degree, are most closely related as both cause and effect.

Participants in the market may form expectations about individual yields of particular interest to them or about yields in general. In any case, the expectations formed are rooted in recent experience and believed causal connections. The business cycle is a realm of experience in which repetitive

patterns of yield behavior are observable; its phases are sufficiently short-term to permit expectations related to such phases to be held with a high degree of confidence; and particular monetary policy actions can reasonably be associated with given phases of fluctuations. Accordingly, expectations tend to have a strong cyclical reference. Even expectations related to supposed trends tend to translate themselves into modifications of cyclical expectations. Thus, for example, if mild secular inflation is the presumed tendency, market participants may reasonably expect successive cyclical peaks and troughs in debt yields to rise and those of stock yields to fall.

Like all economic expectations that are widely held and acted upon, these tend for a time to be self-justifying. But because they are rooted in experience and are themselves subject to influence by the words and actions of monetary authorities, expectations about future yields possess a strong potential for self-reversal at critical levels of experience. Thus, the farther current yields deviate from their recent averages, or, alternatively, the more closely they approach previous cyclical highs and lows, the less widely and confidently held become current expectations and the more subject they become to sudden reversal. Cyclical swings of long-term rates are particularly limited by expectations about future yields. If market participants have fairly firm reason to believe that future yields will exhibit a given trend, cyclical deviations of long rates from that trend cannot become large without inviting speculative bond purchases or sales by those who believe that rates must soon turn back toward the trend. This fact tends always to limit the communication to long rates of current conditions of monetary restraint or ease, unless the central bank or treasury applies pressure directly to the long rate.

The private agency forming expectations relates them specifically to its position and function in the market and acts according to its interests conceived in this light. Here, again, the behavior of transforming intermediaries is particularly significant, because it reflects more than considerations of short-term profitability and speculative gain. These intermediaries try to manage portfolios with a view to meeting, and being prepared to meet, the demands of customers they are functionally designed to serve, and to do so with a minimum danger of the degree of capital loss that would reflect itself in the quality of their own debt. From their point of view, primary emphasis must be given by them to the liquidity position seemingly required by given cyclical expectations. Thus, a general fall in the demand for credit—and therefore a fall in debt yields—that is expected to be reversed at some near-term but uncertain point in future calls for increasing the liquidity of security portfolios, even if it means, as it often does, a sacrifice in average portfolio yield. This behavior adds to the amplitude of cyclical swings in short-term yields, an effect which is further enlarged to the extent that in-

dividual investors' expectations lead them to shift toward direct debt in cyclical booms and back toward indirect debt in slumps.

On the side of issuers of primary debt, it is usually considered sufficient to say that additional debt will be issued when the yield on it is less than the expected return on the capital fund derived. However, for issuers who must rely upon, or have a very strong preference for, long-term debt instruments, the *expected* long-term rate can be of critical importance. If the return from a particular real investment should happen not to depend upon its immediate execution, then waiting for a more favorable long-term interest rate can possibly add to the prospective net gain. Thus, in a cyclical boom, as the long-term rate rises to the point that it may be expected soon to decline, an increasing number of long-term investment projects are postponed, even though their expected return may exceed the going long-term rate.¹⁶ If the rate expectations turn out to be correct and a recession ensues, real investment tends to continue depressed until long rates fall to the point that they may be expected soon to rise again, even though a comparison of current long rates and expected investment returns would have justified an earlier revival.¹⁷ This effect is for readily apparent reasons likely to be more pronounced when a relatively large proportion of long-term investment projects is in the hands of private households (home building), state and local governments, regulated public utilities, and unregulated industries into which entry is difficult.

Clearly, the relation of the present and expected short rates could have no such effect upon short-term investments, as for instance in inventory or other working capital. To the regular user of short-term capital the benefit of a decline in the short rate promptly accrues at the first renewal, so there is little or no gain to be derived from waiting when investment prospects justify borrowing at the prevailing rate. But to the extent that working capital investments are associated with long-term investments and general business activity, the long-rate expectations effect extends across the whole spectrum of real investment. Hence the more fundamental importance of cyclical expectations about the long rate.

There is another important, but neglected, long-rate expectations effect. As the long rate approaches its presumed boom peak, with stock yields very close by in their boom trough, issuers tend to shift from bonds to stocks

¹⁶ Prospective borrowers may in such circumstances borrow short-term funds in order to carry long-term projects until the contemplated fall in bond yield occurs. However, this would seem to require a high degree of certainty about the future of bond yields and a strong credit position with banks.

¹⁷ In the case of long-delayed issues and pressing "need," issuers may return to the market well before bond yields approach their presumed cyclical low. The large volume of state and local issues in the first quarter of 1958 is a case in point. In such cases, long-run pecuniary gain is not as important as necessity to comply with yield restrictions in enabling legislation and desire to make issues in a favorable (rising) bond market.

while investors tend to shift from stocks to bonds. The consequence is a fall in stock prices and a rise in bond prices. The latter confirms the decision of some prospective bond issuers to wait, and the former shakes the confidence of all participants in the market. The circumstance is in no way favorable to the raising of long-term capital. It is a time to wait for a "better market," whether the issuer contemplates offering stocks or bonds. Consequently, real investment as a whole declines until the yield structure indicates that the "better market" has arrived.

In summary, the play of market participants' rational expectations during economic fluctuations tends, first, to produce the characteristic swings of the short rate relative to the long rate and, second, to help check cyclical movements in investment expenditures at certain critical levels of the long rate. The former effect is exaggerated by the presence of transforming intermediaries, whose attitude toward liquidity in relation to their customer-serving function leads them to shift into and out of short-term investments in recessions and booms respectively. The latter effect results from the self-reversal of expectations about the long rate as the latter approaches levels in relation to past performance and current stock yields that experience indicates "cannot last." It would seem that monetary policy actions can be most effective when they succeed in forcing long-term rates into the neighborhood of such critical levels.

Yield Structures and Income Velocity of Money

This last observation has a direct relevance to the problem of perverse variability of the velocity of money. Variations in income velocity are a direct function of the interest elasticity of the demand for money to hold and an inverse function of the interest elasticity of real investment demand, over the relevant range of the two schedules. It is generally believed that investment demand is interest-inelastic over the usual range of experience.¹⁸ From this it would follow that cyclical shifts in investment demand involve positively correlated fluctuations in income velocity which offset, in large degree, restraining and stimulating monetary policy actions. Accordingly, it further follows, only at very high levels of interest rates, where the demand for money to hold loses its elasticity, could monetary restraint halt a vigorous investment boom; and in deep depression, interest rates could not be pushed so low as to stimulate investment without some improvement in the marginal efficiency of capital.

This position may be generally valid. However, I suggest that at certain critical levels of the *long* rate, investment demand becomes highly interest

¹⁸ W. H. White, "Interest Inelasticity of Investment Demand—The Case from Business Attitude Surveys Re-examined," *American Economic Review*, Vol. XLVI (September, 1956), provides a critical review of the empirical studies supporting this belief.

elastic for the reasons just discussed. Combining this thought with the beliefs (1) that the demand for cash balances, particularly on the part of businesses and financial intermediaries, is highly sensitive to the short rate and (2) that short-term real investment is *insensitive* to the short rate when long-term investment is either vigorously rising or sharply falling, I derive the following propositions: As the short rate rises relative to the long rate, with the latter well below its upper critical level, income velocity freely rises. As the short rate falls relative to the long rate, with the latter well above its lower critical level, income velocity freely falls. Near critical levels of the long rate, however, further changes in the short rate relative to the long rate are associated with diminishing changes in velocity.

Combining these propositions with the argument that the behavior of transforming intermediaries adds to the relative cyclical swings of short rates, I have an hypothesis regarding the recently disturbing capacity of the velocity of money to offset, in large degree, the monetary authorities' contracyclical efforts. Moreover, and ironically, the argument suggests that some of this difficulty may be traced to the central bank's choice of control instruments which have their initial and most pronounced effect upon the short end of the yield structure. It seems likely that the current approach to monetary policy itself contributes to perverse variability of monetary velocity until rather late in booms and recessions, when the conditions of real investment demand are rapidly reversing themselves. If so, actions of restraint or ease must be pushed so hard and long that when, belatedly, they become effective, they seem in retrospect to have been overdone. My theory further suggests that this need not be the case.

Some Policy Implications

I have argued that the key to effective monetary restraint or stimulation is the relative level of long-term rates in the yield structure; and that the large and growing importance of transforming intermediaries makes it rather difficult for the central bank quickly and smoothly to bring about the desired relative levels of long rates in all phases of economic fluctuations without inducing undesired changes in velocity. My theory supports the frequently voiced argument that we may now need a more direct approach to control, with greater emphasis given to fiscal policy, in any case. However, within the scope of conventional quantitative instruments, the present theory argues for greater relative use of open market operations and, where indicated, for the specific purpose of shaping yield structures for contracyclical effect. In particular, it calls for the use of central bank purchases and sales with a view to increasing the sensitivity of long rates to conditions of monetary restraint and ease. Clearly, this would require abandonment of the

"bills only" doctrine in favor of a free and flexible attitude toward the term of instruments bought and sold by the central bank.

The "bills only" doctrine is consistent with the belief that the central bank's control function can be effectively carried out by manipulating the reserve position of commercial banks. Bills alone are quite sufficient for this purpose, and undoubtedly government security dealers find it less risky to take positions in them in an atmosphere of secular inflation and rising average bond yields.¹⁹ However, if our argument is correct, the growth of transforming intermediaries has lessened the sensitivity of long-term yields to monetary restraint and ease and increased the perverse variability of velocity. Contracyclical purchases and sales exclusively at the short end of the market tend to exaggerate the fluctuations of short rates relative to long rates and, accordingly, tend to give freer play to velocity. The effectiveness of open market operations is correspondingly reduced.²⁰

The present theory also suggests a much greater role for debt management policy as a means of control. Quite obviously, if it be so intended, the choice of term structure of new and refunded federal debt can powerfully support central bank aims in regard to yield structures. If treasury and central bank policies are not integrated, however, then the efficacy of monetary controls is all the further limited. Proper debt management policy, following our theory, would call for lengthening the average maturity during booms and shortening it during recessions. In view of the present and prospective volume of periodic federal debt refunding, it should be entirely feasible by this procedure to make the long rate adequately sensitive to the contracyclical efforts of the central bank.

It is to be supposed that money market behavior and structure might change in response to a shift in approach by regulatory authorities. Accordingly, our concluding emphasis should be not upon a particular prescription for policy actions, but rather upon the need for adaptability of control instruments and approach to the changing qualitative composition of the money market. At the present time, in any case, apparent failure to appreciate the significance of the *effects* of yield structures would seem to be limiting the efficacy of monetary control efforts.

¹⁹ Cf. D. I. Fand and I. O. Scott, "The Federal Reserve System's 'Bills Only' Policy: A Suggested Interpretation," *Journal of Business*, Vol. XXXI (January, 1958).

²⁰ The sharp decline in bond yields after the Federal Reserve began definitely to ease money in November of 1957 suggests that speculative activity may, in the proper circumstances, be sufficient fully to communicate to long rates the pressures applied by the central bank to short rates. However, the notorious bond market events of June and July of 1958 indicate that "the proper circumstances" will in future include some assurances that surprises like the unexpectedly large volume of long-term issues in the first and second quarters of 1958 will not be permitted suddenly to halt the movement of long yields, create uncertainty, and force speculators to reverse their positions. Ironically, through committing itself to the "maintenance of orderly conditions in the market," by means of such operations in the long end as may be indicated, the Federal Reserve may in future succeed in smoothly carrying out its objectives with a *minimum* of intervention in the long-term market.

Mink Farming in the United States

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THE RAISING OF FUR BEARERS in captivity is a direct response to a dwindling supply of wild animals and a constantly increasing demand for fur. The existence of this highly specialized form of animal husbandry depends upon a reciprocal relationship between cultural and physical elements of man's environment. The purpose of this paper is to describe and interpret the geographic and cultural factors involved in the evolution, location, and expansion of the commercial mink-pelt industry in the United States.

Mink farms in the United States are concentrated in two areas—the Pacific Northwest and the Great Lakes states. Pelt production in the Pacific Northwest has increased rapidly in recent years owing to favorable geographic conditions. All present indications point to future growth—if it remains fashionable to wear mink garments.

Among all types of animal breeding, only the fur bearer is linked directly with women's fashions (with possible minor exceptions). It is important to the mink breeders that they occupy a dominant position in competition with other types of fur, because the existence of their product depends on its continued acceptance. A change in fashion can be devastating to this type of industry. A vivid example is the complete collapse of the domestic and wild fox-pelt market during the 1940's. Pelts that once would have brought well over \$100 on the market depreciated in a matter of months to less than \$1.00. The value of millions of dollars in breeding stock diminished to the point where feeding alone represented a loss. As a result, most of the fox producers were forced to "pelt out" their entire stock. To prevent the repetition of such a catastrophe, the mink breeders' associations of the United States spend thousands of dollars annually for advertising designed to maintain the demand for mink garments.

For more than ten years the total value of domestic mink pelts sold in the United States has far surpassed that of any other fur-bearing animal—amounting to some \$100 million annually. The success of the industry can be attributed to (1) a scientific approach to raising the animals in captivity; (2) a national organization of mink producers; and (3) a well-planned advertising program.

Mink Breeding in the United States

The breeding of mink on a commercial scale is an accomplishment of the twentieth century. However, attempts to domesticate the animals can be traced back at least one hundred years. Whether or not these ranch-bred fur bearers can be considered domesticated in the sense that other farm animals are, is a matter of definition. The dictionary states that "to domesticate" is "to train, tame, or reclaim, or become suitable for domestic use." To train, reclaim, or tame a mink is almost an impossibility. The animals remain hostile and vicious from birth to death, regardless of pedigree or treatment received.

The struggle to raise mink in captivity can be traced to over-trapping, the rapid settlement of lands that once represented a vast domain for wildlife, and a continued demand for this high-quality fur. Such problems, in time, resulted in diminishing natural supplies. Fur buyers also became more conscious of pelt quality and were willing to pay premium prices for better furs. Both of these situations stimulated the pioneers of the industry to produce mink under controlled conditions.

The new enterprise operated on a marginal basis for years, since the quality of the early ranch mink pelts was such that the market favored the wild variety. There were seemingly unsolvable problems associated with developing a suitable artificial environment. Knowledge accumulated slowly by trial and error until it became evident that organized research was necessary before quality pelts and dependable breeding stock could be developed.

In recent years active research programs have been sponsored by various mink-breeders' associations and many state agricultural colleges. The results have been rewarding in that better-quality pelts are being produced, new attractive mutations¹ have been developed, and the industry has been stabilized.

The establishment of a commercial mink industry in the Pacific Northwest is a recent development. Oregon is now the nation's sixth leading pelt producer and Washington the fifth. Yet the first successful operation on the Pacific Coast started as late as 1920. Before it was discovered that mink could be raised successfully on a diet of up to 80 per cent fish products, it was deemed necessary to locate mink ranches in, or adjacent to, areas with dense populations of farm animals. The Great Lakes area was considered ideal, as the lakes supplied the necessary fish and the Corn Belt contributed cattle by-products and horse meat. In addition, the great eastern fur market was only 500 miles away.

¹ Mutation mink are color phases of the original wild, dark-furred animal. They range from almost pure white to silver-blue. New phases are developed yearly. In 1958, mutations accounted for about 85 per cent of U.S. pelt production—thus the poor prices and demand for wild pelts.

TABLE 1

Domestic Mink Production of Ten Leading States

<i>State</i>	<i>Kits Produced</i>	<i>Percentage of U.S.</i>
Wisconsin	1,300,000	33.6
Minnesota	345,000	10.3
Michigan	205,000	6.2
Illinois	195,000	5.8
Washington	175,000	5.2
Oregon	170,000	5.1
Utah	160,000	4.8
New York	160,000	4.8
Ohio	102,000	3.0
Iowa	102,000	3.0

Source: *American Fur Breeder*, Fur Farm Guidebook Issue (Duluth [Minn.], Fur Farm Publications, Inc., 1958).

Climate and the dietary needs of the mink represent the most important locational considerations in establishing a commercial fur farm.

The average mature mink weighs between two and four pounds and will be between twenty and twenty-four inches in length. But regardless of their small physical characteristics, they have a voracious appetite. The mature animal will consume up to one-fourth his body weight daily. The ranch with several hundred breeding animals requires a tremendous supply of fresh fish or other animal products.

Fishing resources are the basis for one of the major industries of the Pacific Northwest. The area is noted for its sport and commercial salmon fishing, but also important to this area's fishing fleet is the harvest of less desirable species for the region's mink ranches. Scrap fish catches for mink farmers amount to well over ten million pounds annually.² Until the establishment of mink ranches these fish represented an untapped resource. The fur farms have also provided an outlet for the by-products of the more desirable varieties.

By nature mink are animals of the mid and high latitudes and for optimum rearing conditions require an environment similar to that of their natural habitat. Climate has a definite effect on the general health of the captive animals, as they are less capable, in their artificial environment, of making natural adjustment to adverse conditions. The quality of the fur is likewise affected by climate. Excessive heat, associated with high humidity, increases the possibilities of disease and when extreme may cause death by heat prostration. The Pacific Northwest, west of the Cascade Mountains, offers conditions conducive to mink raising. Winters are cool and moist—promoting the development of luxurious fur. Summers are dry and mild.

² R. C. Davison and G. D. Carter, "Fishery Resources," *Atlas of the Pacific Northwest* (Corvallis [Ore.], Oregon State College, 1958).

The Mink Ranch

The notion that raising mink commercially is extremely profitable is a misconception. The total amount of profit received by the producer is small compared to the retail price of the final product. In addition, a commercial mink farm requires a substantial capital investment. The average breeding animal costs about \$100, and the necessity of a dependable food supply demands expensive refrigeration facilities to store the seasonal harvest of fish or other animal products. Other equipment of the ranch, such as individual rearing and breeding pens, food-mixing equipment, pelting supplies, and watering facilities, all require a share of the initial investment. It has been estimated that the average United States mink farm has about two hundred breeding animals and represents a capital outlay of between \$40,000 and \$50,000.³

Pelts are usually taken from the animals and sold in a group once a year. Selling the entire annual production at one time results in essentially one lump income payment for most mink ranchers. This places an additional financial burden on the producer in the form of a long period of heavy capital outlay and no income.

The mink producers must also consider the possibilities of disease and breeding problems that are common among these very sensitive animals. And, a rapid shift in demand from one mutation color to another can depreciate a rancher's breeding stock 50 per cent in a relatively short time.

The industry's problems are not limited to the individual or national situation. Imports from Canada, Japan, and Europe have increased at a rate that has alarmed the mink producers of the United States. Pelts from Japan average substantially less than \$5.00 each, but due to inferior quality do not compete directly with the superior United States domestic pelts. Greatest competition is coming from Canada and more recently the Scandinavian countries. Production costs are lower in Europe and the quality of the fur is high. The current approach to the import problem by United States mink breeders has been to request national legislation in the form of import restraints.

Summary and Conclusions

While the breeding of most farm animals was subject to control by man long into prehistoric times, only recently have mink been removed from the wild state and raised under controlled conditions.

Owing to favorable geographic circumstances, the Pacific Northwest has recently become one of the leading mink-pelt-producing areas and has the potential for greater production. This rapid rise can be attributed to an al-

³ Based upon latest statistics available.

most unlimited supply of fish now considered unsuitable for human consumption and to favorable climatic conditions.

Mink ranching is not a bonanza type of enterprise. Many have been drawn into mink raising by unrealistic advertising, quite unaware of the many problems involved. Success requires substantial capital, expert knowledge, and conscientious, hard work.

But ultimately, the future of the industry cannot be assured by geographic advantages or the diligence and wisdom of the producers. Their best efforts could be quickly nullified if the whim of fashion, so much a part of man's culture, should suddenly decide that wearing mink is passé.

Changing Patterns of Policy Formation and Implementation in Communist China

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NOTHING IS STATIC in Communist China, particularly in the present stage of its development. Its political leadership is just now involved in delicate maneuvers for the succession to Mao, who retired from the chairmanship of the Government (though not of the Party) only in December, 1958. Its industrial system is moving toward two important goals: the "leap forward" by hasty acceleration of production, and the transfer and decentralization of control of large sectors of the economy from Government to Party and from central to local administration. Its agricultural economy is being transformed into the presumed final stage of collectivization: the merging of the co-operatives into the new agricultural communes, meant to be identical with the traditional township (*hsiang*) units in scope of membership and to have enlarged authority and responsibility for all economic and political programs.

A brief look at the two formal structures of decision in China—the governmental¹ and party² machines—reveals the approximate shape of the apparatus set up for administration of the world's largest population—the 650,000,000 Chinese. Certain points are suggested at once. There is the clear primacy of the Party, as in all modern totalitarian states. There is the relative similarity of the Party structure and its relation with the Government to that of the Kuomintang (no accident, since the Kuomintang was deliberately designed on Soviet lines by the Borodin mission, and since it adopted Dr. Sun's principle of political tutelage as the basis of its control of the Government structure). There is the obvious capacity of the Party ma-

¹ See Chart I, based on the 1954 Constitution, available in S. B. Thomas, *Government and Administration in Communist China* (2d ed., New York, 1955 [mimeo.]), pp. 181-196. See also the bilingual interlinear text in E. Stuart Kirby (ed.), *Contemporary China* (Hong Kong, 1956), pp. 154-184.

² See Chart II, based in part on the excellent description of the Party machine in Peter S. H. Tang, *Communist China Today: Domestic and Foreign Policies* (New York, 1957), pp. 95-162.

CHART I

STRUCTURE OF GOVERNMENT IN COMMUNIST CHINA, CONSTITUTION OF 1954

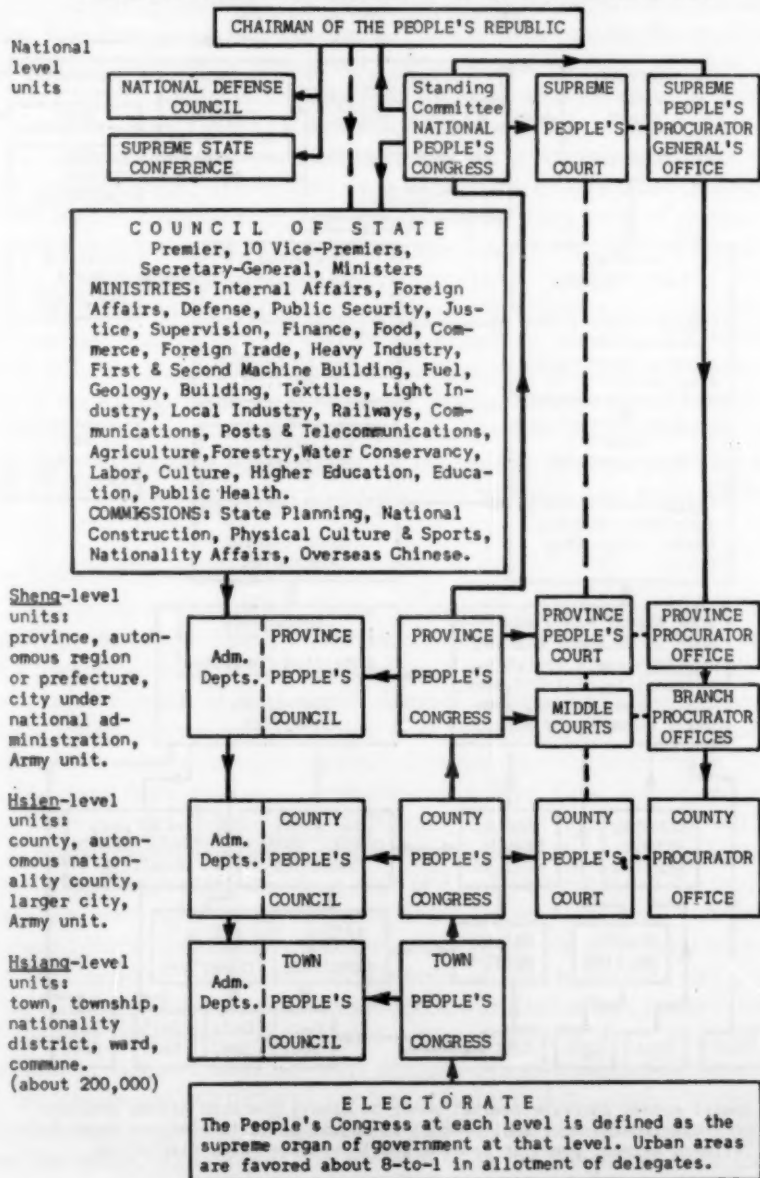
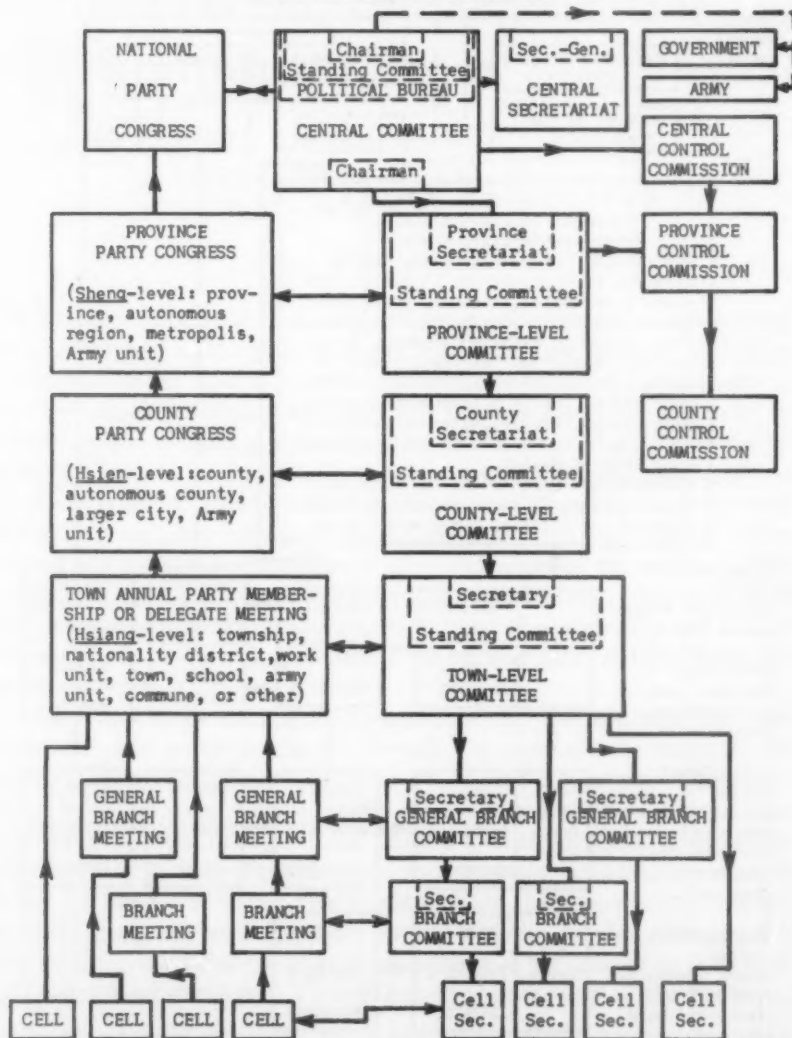


CHART II

DEMOCRATIC CENTRALISM IN THE COMMUNIST PARTY OF CHINA
REVISED CONSTITUTION OF 1956



Upward arrows indicate nominal power to elect; downward arrows indicate control; rightward arrows, nominal or actual power to elect or appoint; leftward arrows, power to convene and to enforce Party discipline.

chine to manipulate outside groups—the transmission-belt principle—and through these groups the entire mass public. There is the similarity of the governmental apparatus to the traditional structure of Chinese administration. It is even more like the imperial model than was the Kuomintang, particularly as it relates to the censorate or control function. Dr. Sun, impressed by the American and Western tradition of separation of powers, projected a "five-power" constitution, with the five branches (*yüan*) related in about the same way as the three of our system. Examination (the civil-service system) and control were in his view so significant in historic Chinese government as to deserve separate status. They were, of course, not separate in the Empire, which was unitary and monarchical in form. So too, in essentials, is the Communist regime.

In their first decade of rule over all mainland China, the Communist leaders have had certain advantages not permitted their Russian counterparts after the Bolshevik revolution. Not the least of these is the obvious one of the Russian example itself. Again, Mao and his group had long years of experience in actual administration of sizable areas and populations, giving them a somewhat stronger feel for the realities of their problems and quite possibly a keener sense of what can and cannot be done to the Chinese people.

The Decision Structure in Action

For a better understanding of how the complicated combination of State and Party machinery works, it seems useful to examine the processes whereby a number of actual decisions were made and carried out. There follow, then, brief accounts of five selected domestic decisions and five in foreign policy, meant to show various aspects of the functioning of the Communist apparatus in successive stages of its development since the take-over in 1949.

The New Marriage Law.—Promulgated in May, 1950, by the unit corresponding to the present Council of State, the new marriage law was the first major formal legislation enacted by the new regime.³ It resembled closely the Kuomintang marriage code and had antecedents in the various marriage laws enforced at different times in the Communist-controlled regions before the take-over. Its professed object was to strike a blow at the "feudal bonds" of the old subordination of wife to husband and at the close-knit family base of society. Introduced with fanfare as a major feature of the new "liberation," the law and explanations of it were circulated in millions of copies; Party units were employed to give the public reception of the law the characteristics of a nationwide drive. Actual enforcement depended on the agencies of the Ministry of Justice, the Procurator's office, and the courts. After a year the attempts to secure acceptance were aban-

³ Cf. Kirby, *op. cit.*, pp. 115 ff.

doned, though the law was not formally repealed. The Minister of Justice remarked that no more than three counties (*hsien*) of the 2,086 in China were capable of applying the standards of the law. The traditional family society had temporarily defeated the regime.

*The San-fan and Wu-fan Movements.*⁴—In August, 1951, a local drive was started in Manchuria by Kao Kang, a member of the Politburo and Party ruler of that area, against evils in bureaucracy. At the end of the same year, following a suggestion by Mao adopted by the standing committee of the People's Consultative Conference (a predecessor of the National People's Congress), the drive was made nationwide. Corruption, waste, and bureaucratism were the three evils proscribed (*San-fan* literally means "Three anti"). The campaign had much the character of a combined Party and Government purge, resulting in the punishment of thousands in both groups for real or imaginary misdeeds. Actually both Party and Government officialdom had been expanded quickly, and with the take-over had probably absorbed many opportunists. The *Wu-fan* ("Five anti") movement was launched concurrently as a drive against abuses in the private business sector: it sought out merchants and industrialists, who still controlled a large fraction of the economy, for the five broadly and vaguely defined offenses of bribery, tax evasion, fraud, theft of government property, and theft of government economic secrets. The *Wu-fan* drive actually resulted in considerable confiscation of privately-owned firms, sometimes in the disguised patriotic form of bond purchases financed by liquidation of holdings and inventories, and thus fitted into the general pattern of Mao's goal expressed in *The New Democracy* of moving the country toward more complete socialism.⁵

Liquidation of Kao Kang.—The Party attack in 1955 on an alleged conspiracy by Kao Kang (who commanded Party affairs in Manchuria), and other regional Party leaders, marked two major changes: it was the first internal purge which went so high as the Politburo, and it was followed by the elimination of the regional level governments which had been created to stand between the provinces (*sheng*) and the Peking regime. The Party Central Committee and the National Conference (corresponding to the Standing Committee of the National Party Congress) were the units immediately involved in the decision. Kao was reported a suicide, and, in general, the pattern resembled essentially that of similar crises in the Soviet Union. Kao's role in Manchuria was reminiscent of the old warlord separa-

⁴ Frank Moraes, *Report on Mao's China* (New York, 1953), pp. 7-9, gives an eyewitness account of a visitation on a grocery storekeeper in Canton during the *Wu-fan* campaign.

⁵ Ronald Hsia, *Price Control in Communist China* (New York, 1953 [mimeo.]), describes the early stages of central economic planning.

tism, particularly in that separatism had been more marked in Manchuria than elsewhere and in that industrial strength made this the strongest of such potentially separatist areas. The action may also be deemed a blow at any individual role of even major Party figures in independent military administration, since Kao not only was de facto ruler in Manchuria's civil administration but controlled the military there as well.⁶

Agrarian Programs.—Agricultural change is central to Chinese economic progress. Farming touches every part of Chinese life, with more than 80 per cent of the population on the farm. The farm is the traditional stronghold of the old ways of life—the family social, economic, and semipolitical unit, the traditional Confucian ethic, local government decision by consensus of local elders—and the primary source of rebellion in the past. A great variety of formal and informal organizational units has therefore been employed to implement the sweeping changes in agricultural society, still in major ferment.

The main stages in the agrarian programs were as follows: first, the Agrarian Reform Law of 1950,⁷ aimed at removing the traditional landlord-gentry class and imposing "land reform" of a not unusual kind to the accompaniment of violent purges of dissidents through the device of the "people's courts" and expropriation of land of unco-operative farmers; next, the introduction of mutual-aid producer co-operative groups as a forerunner to co-operative farms; then establishment of collective and co-operative farms, as well as experimental State farms much on the Russian pattern; and finally the merging of collectives and co-operatives into the agricultural communes in 1958.

The policy on agricultural change is given the most careful attention by the highest units in the Party, to some neglect of the governmental agencies, which are more involved in industrial policy. The massive Peasants' Association, local committees, and their usual parallel hierarchy of Party organizations, are employed in implementation.⁸

The decision to revive the Twelve Year Agricultural Program, originally adopted in draft form in 1956 by the Supreme State Conference, was not heard of again until September, 1957, when it was taken up by the Party Central Committee.⁹ Vaguely worded, it has been applied as the policy basis for the commune program. The communes are highly disciplined, military-like units organized in each township. The decision to make the move to the

⁶ Cf. Tang, *op. cit.*, pp. 81-92.

⁷ See Alexander Eckstein, "Economic Growth in Communist China," *World Politics*, Vol. VII, No. 1 (October, 1954), pp. 9 ff.

⁸ W. W. Rostow *et al.*, *The Prospects for Communist China* (New York, 1954), compares the Russian and Chinese programs.

⁹ Speeches and articles on the agricultural program are collected in *Current Background*, No. 509 U. S. Consulate General, Hong Kong, 1958.

commune system was highly controversial and entailed a tense crisis in the highest Party ranks.¹⁰ It was related to the year of the "leap forward" (1958) for raising industrial production, and to the ideological objective of the complete uprooting of the traditional rural society and its innate conservatism. The economic theory behind the commune is the maximization of use of China's greatest resource—her rural labor supply, ordinarily unoccupied except during the farming season, and which has been tapped often in the past for massive labor projects: the Great Wall, the Grand Canal, the Burma Road—even the Union Pacific Railroad. Barracks life, care of children in communal crèches, common equipment, and stern discipline are counted on to destroy family life, maximize work potential, afford spare labor for small-scale industry, facilitate administration and control of the local unit by the center, and to lay a foundation for reducing the birth rate should that seem required.

The most important added agency in enforcement of the commune stage of agricultural change is the army, which has responsibility for discipline and drill of the commune units.

The Five-Year Plans of 1952 and 1957.—The two five-year plans represent different basic patterns of policy-making, of doctrine, and of implementation. The 1952 pattern (see Chart III) stressed the role of the then important Committee on Financial and Economic Affairs, functioning directly under Chou En-lai as Premier of the Government Council (now the Council of State).¹¹ Implementation was through the vast array of powerful economic and industrial ministries grouped in this Committee. The stage in socialist evolution determined the doctrine, which still called for a substantial private sector, in harmony with Mao's *New Democracy* concept of a tamed capitalism. Thus the major Government device for control of commerce was the domination of the wholesale machinery; of industry, the trade-union machinery; and of agriculture, the wholesale machinery plus the grain tax administered by the Ministry of Finance.

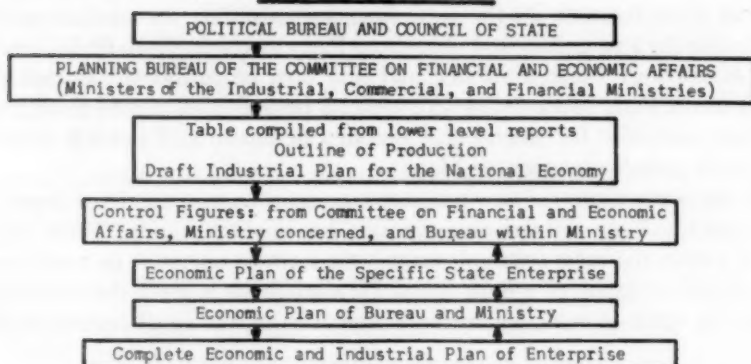
The 1957 plan, on the other hand, represents a far more intensive level of revolutionary socialism, and concomitantly a more intensive participation by the Party machinery in actual administration. The same internal dissension in the Politburo which was reflected in the withdrawal, then re-introduction, of the Twelve Year Agricultural Program developed also in regard to industrial planning. Liu Shao-ch'i's "sloganeering" crash program, with its social revolutionary philosophy, won out over the more con-

¹⁰ *Asian Recorder*, Vol. 4, No. 49 (1958). Page 2370 gives an account of the Party central committee's resolution on the communes.

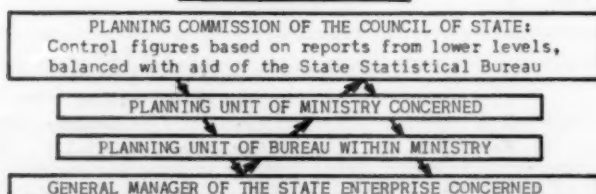
¹¹ See Chart III. Cf. Kirby, *op. cit.*, p. 92 ff., and Ronald Hsia, "The Chinese Economy under Communist Planning," *Pacific Affairs*, Vol. XXVII, No. 2 (June, 1954), pp. 112-123.

CHART III

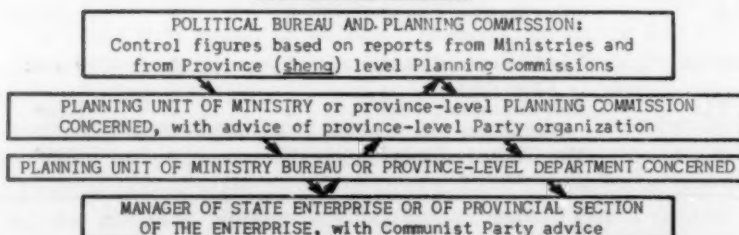
THREE STAGES OF PLANNING IN COMMUNIST CHINA

Initial Stage, 1950-1951

(upward arrows indicate return of plans)

Second Stage, 1954-1955

(Reports, plans, and targets for seven sub-plans: the Labor, Production, Raw Materials, Cost, Sales, Construction, and Financial Plans)

Third Stage, 1957-1958

(In the second and third stages the first line of downward arrows shows the demand for information and reports; the upward arrows show the movement of reports and draft segments of the Plan; the last downward line shows the movement of control figures to correct each level's draft)

servative haste-makes-waste practicality of Chou En-lai.¹² An estimated 80 per cent of the industrial establishments and programs were removed from the control of the central ministries and assigned to local authorities at the province and lower levels, even for such functions as selling bonds for capital improvements. At the same time, responsibility for administration shifted to the still unitary and ubiquitous Party machine. Chou En-lai leaves the Ministry of Foreign Affairs, and may now be considered as ranking sixth in the Party hierarchy, where hitherto he had been ranked third, and a close contender for second. Liu becomes definitely and securely second and most probably successor to Mao.¹³

In economic terms the new program emphasizes a new degree of dependence on the Party cellular organizations for implementation. These units work within the basic economic units—the farm co-operative or commune, the factory or group of village shops. New emphasis is given the small factory: the small (three cubic meters) steel furnace, the small cement works

TABLE 1

Standing Committee of the Political Bureau of the Central Committee, Chinese Communist Party, 1958

<i>Name</i>	<i>Party Office</i>	<i>Present Rank in Central Committee</i>	<i>Rank in Seventh Central Committee (1945-52)</i>	<i>Foreign Training</i>
Mao Tse-tung	Chairman, Central Committee	1	1	None
Liu Shao-ch'i	Vice-Chairman, Central Committee	2	2	USSR
Teng Hsiao-p'ing	Secretary-General, Central Secretariat	4	24	France
Chu Teh	Vice-Chairman, Central Committee	5	4	Germany
Chou En-lai	Vice-Chairman, Central Committee	6	3	France
Ch'en Yün	Vice-Chairman, Central Committee	8	8	None
Lin Piao	Vice-Chairman, Central Committee	9	6	USSR

¹² Roderick MacFarquhar, "Communist China's Intra-Party Dispute," *Pacific Affairs*, Vol. XXXI, No. 4 (December, 1958), pp. 323-335.

¹³ See Table 1. Cf. R. C. North, *Kuomintang and Chinese Communist Elites* (Stanford, 1952), and Chao Kuo-chun, "Leadership in the Chinese Communist Party," *Annals*, Vol. 321 (January, 1959), pp. 40-50. Since the above was written, Liu has been elected to Mao's former position as chairman of the People's Republic (April, 1959).

or fertilizer plant, the small colliery or copper smelter, which—locally based—can make use of the surplus farm labor and the traditional handicraft skills of the Chinese home craftsman, hitherto largely displaced by the products of the industrial revolution.¹⁴

TABLE 2

Production of Selected Industries in China, Compared with Pre-1949 Peaks and with Targets for 1958

Product	Pre-1949 Peak ^a	1953	1954	1955	1956	1957	Targets for 1958
Iron	1,991	2,175	2,962	3,630	4,777	5,940	16,900 ^b
Steel	1,379	1,774	2,225	2,853	4,465	5,350	10,700 ^b
Coal	58,630	66,572	79,928	93,604	105,922	130,730	210,000
Oil	214	622	789	966	1,163	1,458	2,100
Electricity (output)	6,900	9,195	11,001	12,278	16,590	19,340	27,500
Machine tools (Not available)		20,502	15,901	13,708	26,000	37,192	80,000

^a Combined figures for China and Manchuria under Japanese administration.

^b Includes estimates for small commune smelters and furnaces.

(All figures in thousands of metric tons, except electricity [millions of kilowatt hours] and machine tools [units]).

That the commune at the same time strikes a blow at the family base and permits easier central direction of the personal life of the peasant is of course not undesirable from the regime's viewpoint, unhappy as the results are for the individual. Suggestions of resistance thus far suggest that the regime may be forced to slow down or even reverse this stage of extreme militarization of the countryside, once the immediate objectives of increased production and initial weakening of traditional family-based society have been achieved.¹⁵ It would be an error, however, to assume that the few horror stories about the communes which have filtered through the border are either typical of the situation or that, if typical, they necessarily represent an adequate degree of resistance to endanger the regime. The commune program seems to involve possibilities for flexibility in detail sufficient to permit a partial retreat by the regime to seem a major humanitarian concession to popular demands, without entailing any substantial loss of control. For example, a revival of family life by the marriage partners and their children

¹⁴ See Table 2. Cf. Richard Moorsteen, "Economic Prospects for Communist China," *World Politics*, Vol. XI, No. 2 (January, 1949), pp. 192-220.

¹⁵ Cf. J. B. Gittler, "Social Adjustment to Technological Innovation," in W. S. Hunsberger (ed.), *New Era in the Non-Western World* (Ithaca, 1957), pp. 113-131.

may be allowed without restoration of the patriarchal kinship unit hitherto dominant as the socio-economic-political cell of Chinese society.¹⁶

Turning now to decisions in foreign policy, it may be pointed out that the decision units are more obvious: the Politburo on high policy, the Ministry of Foreign Affairs or the Ministry of Trade on items of lesser importance. Our attention here is, therefore, centered on attempting to identify the general international orientation of the regime rather than on tracing the administrative pattern.

*The Unofficial Sino-Japanese Trade Agreement of 1955.*¹⁷—At the time of this agreement, the Japanese special relationship to the United States made it impossible to open official negotiations, so what were termed private nongovernmental committees in the two countries became the signatories. The agreement suggests the normal economic pressures for trade between countries whose economies are largely complementary (in the prewar period, Japan held about one-third of the foreign investment in China and enjoyed about one-third of her foreign trade). Chinese motives in the agreement include not only the purely economic advantages, shared by both government and private sectors of the economy, but also the longer-range purpose of weaning Japan away from the American orbit—an aim expressed often by Chinese spokesmen.

The Five Principles (Panch Shila) Agreement with India.—The pact with Nehru goes to the peace theme in world Communist propaganda and also to the initial stages (1954) of the drive to develop better relations between China and the neutral states of Asia. The Five Principles, calling somewhat repetitively for generally desirable peaceful behavior, are as follows: mutual respect for each other's territorial integrity and sovereignty, mutual nonaggression, mutual noninterference in each other's internal affairs, equality and mutual benefit, and peaceful co-existence.¹⁸ The ideological base of the *Panch Shila* is essentially Buddhist and Hindu, and, of course, fits well in the Gandhian system of thought. Its use by the Chinese is an example of clever appeal to the national values of neutral states to further their prestige in the campaign to secure recognition as prime leaders of Asia

¹⁶ Mao touches a Confucian note in his *People's Democratic Dictatorship* (Peking, 1950, p. 9), speaking of "a transition through a people's republic to Socialism and Communism, to the elimination of classes and attainment of universal harmony."

¹⁷ Text in Kirby, *op. cit.*, pp. 188–192.

¹⁸ Margaret Fisher and Joan Bondurant, *Indian Views of Sino-Indian Relations* (*Indian Press Digests*, Monograph Series No. 1, Berkeley, 1956, pp. xii–xvii, Appendix III) gives text and Indian editorials and speeches. Cf. also Hadley Cantril "Some Observations of a Psychologist in India: An Informal Discussion" (Institute for International Social Research, Princeton, 1958 [mimeo], p. 17): "It should be borne in mind that the Indian concept of 'neutrality' follows one of the major theses of the *Gita*, namely, the virtue of practicing universal tolerance."

in the arena of world politics—objectives probably temporarily set back by the second stage of integration of control in Tibet and the resulting crisis and flight of the Dalai Lama to India in April, 1959.

Withdrawal of Soviet Union Forces from Port Arthur.—Russia had pledged in the original Sino-Soviet alliance to move her military forces completely out of Chinese territory, but the final withdrawal from Port Arthur was delayed until 1955. The delay can be attributed only in part to the military situation in the Korean War; some feel the internal differences in China which resulted in the liquidation of Kao Kang may be partly the explanation.¹⁰ Speculative as this is, there seems little evidence of strong pressure from the Chinese military for Russian withdrawal until the Kao Kang problem was solved.

From the Soviet viewpoint, the withdrawal of formal Soviet contingents was delayed until substantial numbers of Russian technicians and advisers had been introduced into China in most key centers and units.

The Korean War.—The decision to send major military forces into the Korean War in the guise of "Chinese People's Volunteers" was obviously one made at the very highest level, and implemented by all the Party-State apparatus from top to bottom. It is sometimes represented as a move dictated by the Soviet Union, and sometimes quite contrariwise as a move to safeguard China's interests against Russia in the vital Manchurian region. It may have been connected as well with the internal separatism alleged of the Kao Kang regime in the area. We have little but speculation to go on.

Internal results of the Korean War—and the only reason for introducing so large a topic in so brief a summary—certainly enhanced the authority and prestige of the regime. Internal control was developed by the enforced bond-selling programs, by the anti-American drives ("Resist America—Aid Korea"), and the relative military success of the regime in the combat operations was used skillfully in propaganda designed to create the popular impression of a powerful, victorious government. Greater economic sacrifices were demanded in the patriotic cause, and the progress toward socialization of the private economic sector more than counterbalanced the economic drain of the war itself.

Economic and political ties with the Soviet Union represent the primary international product of the war, though a note of caution for the future may have been struck by the large percentage of Chinese prisoners-of-war who chose not to return to China. In fact the fear that the immunity of the deserter might be a principal lesson of the war for the Chinese (or other Communist) soldier may well account for the inordinate length of the armistice negotiations.

¹⁰ Cf. Kirby, *op. cit.*, p. 30.

Quemoy and Matsu.—The decision on militant action against Quemoy and Matsu is the latest chapter in the effort to perpetuate the "One China" principle and to divert the United States from its course of support for the Nationalist regime. According to one theory, the decision was connected with Khrushchev's visit and represents the Chinese contribution to an alternating pattern of Communist pressure, first in Asia, then in Europe. On the other hand there seems to be some ground for feeling that the Chinese both undercalculated the American determination to support Taiwan and overestimated the Russians' willingness to back up their Chinese ally. A shakeup in the military organization followed the de facto cease fire of last summer, and the accompanying resumption of diplomatic talks at Warsaw.

It is also possible, from the fact that the Chinese suggested resumption of diplomatic talks rather early in the crisis, that the decision is related to their general campaign for recognition, though this seems speculative and even quixotic. Two additional military members were added to the Politburo following the temporary cessation of action in the area, but this should not be taken as an increase in military influence. On the contrary, it was probably designed as an additional safeguard of Politburo control of the army, since the military are still far outnumbered in Politburo membership.

Patterns and Problems of Administration

Though brief, the above accounts of selected policy decisions reveal a number of special features of the Chinese system.

Social Classes.—With respect to the relative significance of the several social groups, we should note that the occupational stratification of classical China put the scholar-official first, the farmer second, the artisan third, and the merchant last, while the soldier, not even ranked, would come below all these. To the extent that the scholar-ruler was custodian of the accepted ideology—the universal social harmonics of the officially espoused Confucian ethic—he may be compared to the Communist cadre high or low, Politburo member to cell leader, from whom emanates the sanctified doctrines of Marx, Lenin, Stalin, and Mao Tse-tung.

As for the more traditional intellectual class, the regime's policy has fluctuated between moderation and coercion.²⁰ The early period involved rather awkward devices aimed at the conversion of the intellectuals to communism. Compulsory study groups were organized in which, for example, university professors would read accepted Communist texts under the semi-military leadership of party cadres. The regime was concerned to retain the

²⁰ C. Brandt, B. Schwartz, and J. K. Fairbank, *A Documentary History of Chinese Communism* (Cambridge, 1952, p. 349 ff.) gives an early Party statement on use of non-Communist intellectuals. For an account of traditional society, see Derk Bodde, *China's Cultural Tradition* (New York, 1957, p. 50).

skills and services of this group but also was correctly suspicious of its political reliability. Increasingly intensive campaigns of study and self-criticism followed. In 1957 a brief period of freedom followed a remarkable speech by Mao, in which he called for liberalization of intellectual life and thought and quoted with favor an ancient Chinese proverb: "Let a hundred flowers bloom, let a hundred viewpoints contest."²¹ At first cautiously, then enthusiastically, the college professors and minors rose to the challenge with statements denouncing the regime itself, its methods, ideology, and personnel. The new freedom lasted about a month; the Communists reacted violently with the anti-rightist "rectification" drive which extended beyond the intellectual class and brought a new wave of public confessions of error, self-criticism, and new slogans for the intellectuals emphasizing the importance of ideological conformity.

In the training of the presumed successors to the intellectual class, the regime has naturally planned carefully. The training programs are centrally directed, and recruitment is classified by presumed needs of the government. The accompanying table shows the approximate variety and quantity of authorized college-student programs in 1957.²²

Mao's political base, however, has always been in the peasantry, and some of his most strenuous intra-Party struggles in the period of opposition were with Communist ideologues such as Li Li-san, who favored the urban base.²³

TABLE 3

Students in Higher Institutions and Technical Training Schools in Communist China, 1957, by Categories

Classification	Number in Higher Institutions	Percentage	Number in Technical Schools	Percentage
Engineering	177,600	40.9	244,000	36.3
Agriculture and Forestry	37,200	8.6	98,800	14.7
Finance and Economics	12,700	2.9	33,300	5.0
Health and Physical Education	58,400	13.4	74,400	11.1
Teaching	89,000	20.5	218,500	32.5
Arts	2,900	0.7	2,800	0.4
Science	27,100	6.2
Political science	9,300	2.1
Liberal arts	20,400	4.7
Total	434,600	100.0	671,800	100.0

²¹ See T. H. Chen, "The Thought Reform of Intellectuals," *Annals*, *op. cit.*, p. 82 ff.

²² Based on Tang, *op. cit.*

²³ Cf. Mao's *On Practice* (Peking, 1941, an essay written in 1937, pp. 20-21): "We are opposed to the die-hards in the revolutionary ranks. Their ideas do not advance with the

The inherent difficulty of putting the proletarian worker at the top of the social scale is only partially met by the current attempt to transform the farmer into a proletarian by the commune system. There is, however, a clearcut Communist theoretical framework for this move, since in the new setting the farmer will actually function as a laborer, and substantial numbers of farmers will be engaged in industrial labor in small plants, commune-connected shops and other nonfarming activities. Even farming itself will be conducted on a labor-gang basis. Thus, the merging of the farmer and the proletarian worker may lend to the worker the traditionally high status of the farmer, and to the farmer the Communist-dictated high status of the worker.²⁴

As for the army, here, too, the Communists have done several things to enhance the formal status of the soldier, lowest in the classical stratification. By extensive use of militia, usually farm-oriented, and by use of the regular military personnel for work on civilian projects on the farm and in public construction, the Communists have systematically added to the soldier's status even in terms of the classical roles. Extraordinary propaganda²⁵ has also been devoted to the heroic role of the People's Liberation Army; special privileges vis-à-vis the grain tax and family rations, government employment, and so on, create an economic favoritism which is respected by the practical Chinese. One of the difficulties with the commune system derives from the fact that discipline is enforced by the military, who thus have a sufficiently specialized role to set them apart from the members of the commune. In theory the members of the commune become platoons of a paramilitary organization, subjected to regular drill—militia—so that they may come to consider themselves a part of the military. In fact, though, this does not seem to work out since they are denied ammunition. One suspects their reaction would be difficult to distinguish from that of prisoners under military guard, whose status does not enhance their respect for the soldier, though outward forms of respect are enforced.

In their effort to improve the status of the soldier, the Communists are not working entirely new ground. The Mongols did not have the Chinese prejudice against the soldier, nor did the Ch'ing, so that through these two dynasties, the latter ending only with Dr. Sun's revolution, a formally high status existed. The Kuomintang likewise bent every effort, though not entirely successfully, to enhance the status of the military, particularly during

changing objective circumstances. . . . We are also opposed to the idle talk of the 'left.' The ideas of these 'leftists' are far ahead of a given stage of development of the objective process. . . ."

²⁴ Cf. Ralf Bonwit, "Communist China's 'Leap Forward,'" *Pacific Affairs*, Vol. XXXI, No. 2 (June, 1958), pp. 164-172.

²⁵ Cf. *The Chinese People's Liberation Army* (Peking, 1950), a typical propaganda pamphlet published by the prolific Foreign Languages Press.

the period dominated by Chiang Kai-shek, whose leadership role was defined in military terms.

In dealing with the merchant class, long since blended with the capitalist class of factory owners in the urban centers, the Communists at first distinguished carefully between "national" bourgeoisie or capitalists and "unpatriotic" members of these classes. Mao's doctrine called for tapping the skills and the material resources of these groups for the cause of the revolution, but as the new regime improved its capacity to supply such resources and skills itself, it de-emphasized the private mercantile and industrial sectors to the point where at present they are all but nonexistent.²⁶

Formal and Informal Administrative Devices.—As mentioned before, the major problem faced by the Communist regime with respect to administrative personnel was that of filling the gap of the middle-level bureaucracy. Particularly in the effort to move the entire country over to a totalitarian regime, dedicated to industrial expansion, or even explosion, the acute shortage of trained officials was impossible to fill in a short time. Top-level planning was achieved more easily through the familiar hierarchy of the Party. This gap has still not been filled completely, though by intensive training programs, partly with Russian advisors and technical personnel as nuclei, it is partially remedied.

Rules, laws, and administrative regulations abound. The difficulty here is twofold. First, the lack of trained personnel has resulted in incomplete application and inadequate communication of rules. Second, the traditional Chinese attitude toward formal law has been difficult to modify. The Chinese tradition can be described as one of men and not of laws: in Confucian terms, if the official is bad, it does no good to have good laws; if the official is good, you do not need laws. One result of the blending of Chinese traditional attitudes and Communist planning is the phenomenon of the "drive," or "campaign." Each year of the regime has been characterized by at least one major nationwide campaign, complete with slogans, high-level speeches, and directives emanating from the center, accompanied by mass propaganda, mass meetings, and intensive indoctrination and action programs at the local level. Examples include the *San-fan* and *Wu-fan* movements, the "Resist America—Aid Korea" drive, the several agrarian campaigns, the bond-selling campaigns, and the new "leap-forward" campaign. The campaign device makes it possible to use the Party's entire apparatus for propaganda and coercion as a supplement to the formal governmental apparatus.

The Cadre.—As for the basic contact point of government and party with

²⁶ Mao Tse-tung, *Selected Works* (Bombay, 1954), Vol. III, p. 218, states the general doctrine thus: "Our tactical principle [is] . . . to win over the majority, oppose the minority, and crush the enemies separately."

the people, H. F. Schurmann has supplied a thoughtful analysis of the role of the *hsiao-tsu* (literally, "small groups"), which he describes as the "building blocks of Chinese Communist total organization."²⁷ The *hsiao-tsu* is a deliberately developed substitute for pre-existing social groups such as the family, work unit, secret society (*tang*), or guild (*hui*). It consists of from three to twenty persons (twenty comprise a typical platoon in the new agricultural communes). Each group has its cadre, or leader, who provides liaison with officialdom, and is responsible for maintenance of the group morale, ideological conformity, and work performance. Regular meetings of the group are required, in which self-study and self-criticism techniques are used to create a presumed sense of group solidarity and consensus, subject to the regime's imperatives of doctrinal conformity and work quotas. The groups are organized in the Party itself, in the non-Communist parties still permitted to function, in labor unions, peasant associations, and other mass organizations, in the military formations, the bureaucracy, among students in all educational institutions—indeed throughout all of Chinese society.²⁸ It is probably no exaggeration to say that practically all Chinese are in some such organized group.

Tensions.—Evidences abound that many traditional Chinese socio-political habits persist, despite the regime's earnest efforts to stamp them out. The *San-fan* and *Wu-fan* movements were aimed at practices in government and business which, though deemed unethical in the West, were common features of traditional Chinese society. The intensity of the drives suggest that the evils proscribed were real problems. The constant stress on the need for opposing the old ways, particularly among the peasantry, indicates that the older traditional base of society is far from destroyed. Party and nationwide purges have apparently been as ruthless as in Russia and also point to a source of trouble.

From such tensions as are related to the transition from old to new there may well emerge others within the outwardly monolithic Party-State structure. It is too early to predict these with any degree of certainty, but the Soviet experience as well as China's past would suggest the army *versus* civilian rivalry as one, the intellectual *versus* party regular as another, and the regional separatist pattern as a third.

Foreign Contact.—The intimate relationship with the Soviet Union is too obvious and well known to require comment. Less known is the extreme traditional xenophobia of the Chinese and the depth and bitterness of the

²⁷ H. F. Schurmann, "Organization and Response in Communist China," *Annals*, Vol. 321 (January, 1959), pp. 51-61.

²⁸ In *On the Party* (Peking, 1950, p. 122), Liu Shao-ch'i puts the point more favorably: "It must be made known to the entire Party that every government office, army unit, mass organization, economic institution, popular educational body, city or village is invariably based on an alliance between our Party and non-party masses."

anti-American propaganda throughout the entire decade of the Communist regime. All of China's antiforeign spleen seems to have been vented on the United States as the foreign power representing at once the strongest focal point of Chinese good will before the take-over and the central symbol of world capitalism to the present rulers.

Achievements and Prospects

For so complex a society, few valid generalizations are possible. We may note certain conclusions with the reservations that they are not put down as final, and that as often before in China, everything may be upset by a bad harvest.

It seems clear that despite the ruthlessness of the regime—estimates of up to 20,000,000 have been offered in attempts to fix the number of victims of the several nationwide purges—the Communist approach at total societal control is a possible and effective technique for administering a vast and chiefly agrarian population. For the first time since the T'ai P'ing revolution, central administrative control has been achieved.

Moreover, the regime has demonstrated its capacity to maintain the upper hand over the military—a feat not possible for the Kuomintang and traditionally difficult in China. Warlordism was in fact a major source of separatist tendencies throughout the late Ch'ing dynasty and became practically the form of government after Sun Yat-sen's revolution.

The problem of supplying trained personnel and methods of modern bureaucracy is apparently well on its way to solution. By means of an intensive training program and abundant use of Russian technical personnel, the regime has for the first time filled the gap of the middle-level official, so that on the purely technical side, China has now her first modern administrative system, be it curse or blessing. Ministry of Finance tax collectors replace the tax farmers and concessionaires; the first complete census in Chinese history was made in 1953; agents of the government abound in agricultural, industrial, and commercial life. College-level training schools were to recruit 125,000 candidates for specified courses of study in 1958.

Throughout the system, what in Western society are deemed informal structures are formalized into Party-State machinery, with theoretical and ideological roles defined by the State, and detailed administrative functions are spelled out from day to day and year to year. Non-Communist party organizations and all varieties of social and professional groups, including particularly the trade unions and farmers' organizations, are instruments of Party-State action.²⁰

This total organization has thus far demonstrated a great capacity to control human activity, including economic activity. It has been more successful

²⁰ Cf. Table 4, based on Thomas, *op. cit.*

TABLE 4

Recruitment Permitted Non-Communist "Middle" Parties by the Department of United Front Activities of the Communist Central Committee

<i>Party</i>	<i>Classes of Recruitment Permitted</i>
Revolutionary Committee of the Kuomintang	Kuomintang members holding government positions or who have rendered worthy service to the State
China Democratic League	Teachers, students, professional classes, government employees, overseas Chinese
China Democratic National Construction Association	Industrialists and merchants
China Peasants and Workers Democratic Party	Government employees and professional agricultural and labor specialists
China Association for Promoting Democracy	Intellectual workers, professional classes, administrative personnel
Chiu San Society	Educational, scientific, cultural workers

in improving industrial production than agricultural. In fact, the agricultural transformation represented by the commune system is still a question mark in both its social and its economic aspects. But methods promising temporary success have been introduced for the purpose of making use of China's greatest reserve—the free time of her rural labor force. Official claims of from 60 to 100 per cent increase in the 1958 harvest of major crops over that of 1957 may be exaggerated, but, even so, represent an extraordinary achievement.

Internationally, there seems no reason to expect any break in the solidarity of China with the Communist camp.³⁰ To it she brings the particular advantage of her special status as a Far Eastern power, able to maneuver more effectively than Russia in that part of the neutral world. Her rise from semicolonial status and her advances from industrial underdevelopment give her a special voice with countries whose circumstances are similar.³¹ There is no question that she presents a most serious challenge to the Free World.

³⁰ See Allan S. Whiting, "Foreign Policy of Communist China," in R. C. Macridis (ed.), *Foreign Policy in World Politics* (Englewood Cliffs, 1958), pp. 264–294.

³¹ *Survey of the China Mainland Press* (U.S. Consulate-General, Hong Kong, No. 1691, January 16, 1958, pp. 21 ff.) gives details of Chinese economic aid programs in the Middle East. Cf. comments by the Canadian journalist Gerald Clark in a special television broadcast, "The Face of Red China," December 28, 1958, on the Columbia Broadcasting System network (script published in an unpaginated, undated pamphlet by CBS).

The Austrian Reaction to the Treaty of St. Germain

J. CLAUDE ROBERTS

TEXAS AGRICULTURAL AND MECHANICAL COLLEGE

WINSTON CHURCHILL has called the break-up of the Austro-Hungarian Empire by the Treaty of St. Germain a "cardinal tragedy." Certainly the history of the twentieth century indicates that there is considerable truth in this evaluation, since a fragmented Danubian Basin, as Churchill points out, was indeed not able to face the pressures of a strong Germany and Russia. And as previous articles in this journal have demonstrated, Austria was unable to withstand the pressure for *Anschluss*,¹ which in fact was really born at Paris in 1919. At the same time, other successors of the Danubian Monarchy succumbed to Russian pressure and have been reduced to the status of mere satellites.

Although we are able to see these developments quite clearly because of our advantage of hindsight, in 1919 the consequences of the Treaty of St. Germain were not so apparent. At the time, the peacemakers carried out what was considered a liberal policy so far as they could and to the extent that the conflicting power interests and the realities of the *status quo* would permit. In 1919, the only group able to see the precarious implications of the St. Germain settlement were the Austrian people, whose self-interest allowed them to perceive the danger, albeit they were not agreed on what the precise nature of the danger was. The protests of the Austrians were, however, for various reasons, ignored or subordinated in 1919, and, because of the much greater importance assigned to the German treaty, little attention has been given to the Austrian arguments since. It is, therefore, instructive to re-examine the Austrian attitudes and opinions expressed in 1919, since they demonstrate how selfish public opinion, protesting against what it considers injustice, may on occasion perceive the future consequences

¹ Winston S. Churchill, *The Second World War: The Gathering Storm* (Boston, Houghton Mifflin Company, 1948), p. 10, hereinafter cited as *The Gathering Storm*; Keith Eubank, "Conquest by Diplomacy," *Southwestern Social Science Quarterly*, Vol. 39, No. 1 (June, 1958), and Hans A. Schmitt, "The End of the First Republic of Austria," *ibid.*, Vol. 39, No. 4 (March, 1959).

of political action better than the most competent body of statesmen and experts.

The leaders of the victorious Allied Powers who assembled in Paris in January, 1919, were certainly such an able group. They were faced, however, with a very great problem with regard to the Danubian Basin. The closing stages of the war had witnessed the disintegration of the Austro-Hungarian Monarchy, out of the ruins of which there had emerged several successor states, each demanding certain things as its legitimate and just due. Among these successors was a new state, dating from November 12, 1918, which styled itself the Republic of German Austria. Claiming all the Germans of the western half of the old monarchy, German Austria took its stand firmly upon the Wilsonian principle of national self-determination which had been incorporated into Point IX of the Fourteen Points. Although this principle had been tentatively accepted as the basis for peace negotiations at the time of the armistices, it came into conflict with the French determination to prevent *Anschluss*, with the demands of the Czechoslovaks, the Yugoslavs, the Poles, and the Rumanians, whose cause had been espoused by the Allies in the last year of the war, and with the Italian designs upon Austrian territory. It also collided head-on, in many instances, with the realities of the situation as it actually existed, since some of the problems had been virtually settled de facto before the peace conference even convened. Such was the complex dilemma which the Big Four—Woodrow Wilson, David Lloyd George, Georges Clemenceau, and Vittorio Orlando—had to try to resolve.

After the peace conference began in January, 1919, however, the Big Four did not give their full attention to this problem immediately. For several months, work on the Austrian treaty was relegated to a subordinate position, since three of the four great powers considered the German treaty to be of primary importance. Inasmuch as Italy, however, had a vital interest in the Austrian problem and was quite insistent that it should not be thrust into the background, the Big Four decided to work on both problems simultaneously.² Yet, despite this compromise, the problem of the Danubi-

² Louis H. Gray, *A Commentary on the History of the Treaty with Austria* (MS, Paris, 1919; microfilm copy in the Hoover War Library), p. 2, hereinafter cited as *Commentary*. See also, David H. Miller, *My Diary at the Conference of Paris, with Documents* (21 vols., New York, Appeal Printing Company, 1924), Vol. I, p. 174; Harold W. V. Temperley (ed.), *A History of the Peace Conference of Paris* (6 vols., London, Henry Frowde and Hodder and Stoughton, 1920-1924), Vol. I, pp. 261-262, hereinafter cited as *Peace Conference*; Minutes of the Council of Ten (BC-37) and Appendix A (ii), February 22, 1919, *Papers Relating to the Foreign Relations of the United States: The Paris Peace Conference, 1919* (13 vols., U.S. Department of State, Washington, 1942-1947), Vol. IV, pp. 85-89, 91-97, 101-102, 109, hereinafter cited as *Papers Relating to U.S. Foreign Relations*; Nina Almond and Ralph H. Lutz (eds.), *The Treaty of St. Germain: A Documentary History of the Territorial and Political Clauses with a Survey of the Documents of the Supreme Council*

an Basin remained secondary until April, when the Big Four, or Supreme Council, as it was known, had decided, at least in principle, upon most of the German questions. In the interim, the problem had been referred to various expert committees.³ When these specialized committees reported in March and April,⁴ the Central Committee on Territorial Questions and the Council of Foreign Ministers prepared the Austrian problem for the consideration of the Supreme Council.⁵ Near the end of April, the Big Four began to devote a part of their attention to Austrian affairs, quickly completed the Austrian draft treaty, and presented it to the Austrian delegation on June 2.⁶

While the Austrian treaty was in the last stages of preparation, the Supreme Council decided to invite Austria to send a delegation to St. Germain.⁷ Accordingly, the Austrians chose Dr. Karl Renner, the Social Democratic chancellor, to head a group which included such prominent members as Professor Alfred Gürtler, Dr. Ernst Schönbauer, Professor Franz Klein, Franz Peter, Johann Andreas Eichhoff, Dr. Richard Schüller, and Professor Heinrich Lammasch.⁸

It was not with a light heart that this delegation departed for St. Germain on May 12. In accepting his appointment, Renner declared: "I know . . . that the broad masses of the people of German Austria never wanted and were never guilty for the war. I am, however, just as certain that we shall

of the *Paris Peace Conference*, Hoover War Library Publication No. 5 (Stanford, Stanford University Press, 1935), pp. 27-38, hereinafter cited as *Treaty of St. Germain*; and David Lloyd George, *Memoirs of the Peace Conference* (2 vols., New Haven, Yale University Press, 1939), pp. 522-524.

³ Minutes of the Council of Ten (BC-23 and BC-35), February 5 and 18, 1919, *Papers Relating to U.S. Foreign Relations*, Vol. III, p. 887; IV, 55; Temperley, *Peace Conference*, Vol. I, p. 262; Edward M. House and Charles Seymour (eds.), *What Really Happened at Paris: The Story of the Peace Conference, 1918-1919, by American Delegates* (New York, C. Scribner's Sons, 1921), p. 95.

⁴ See report of the Commission on Czechoslovak Affairs, March 12, 1919, Almond and Lutz, *Treaty of St. Germain*, pp. 439-442; and Report of the Commission on Rumanian and Yugoslav Affairs, April 6, 1919, *ibid.*, 363-367.

⁵ Minutes of the Council of Four (IC-176H), April 26, 1919, *Papers Relating to U.S. Foreign Relations*, Vol. V, p. 292; Almond and Lutz, *Treaty of St. Germain*, p. 38. Also see Gray, *Commentary*, p. 3.

⁶ Protocol of the Tenth Plenary Session, June 2, 1919, *Papers Relating to U.S. Foreign Relations*, Vol. III, pp. 424-427; Almond and Lutz, *Treaty of St. Germain*, pp. 60-61.

⁷ Minutes of the Council of Four (IC-178A and IC-178D), April 30 and May 1, 1919, *Papers Relating to U.S. Foreign Relations*, Vol. V, pp. 368-369, 392-393.

⁸ Austria, National Assembly, *Stenographische Protokolle der Konstituierenden Nationalversammlung der Republik Österreich*, 1919 (Vienna, Österreichische Staatsdruckerei, 1919), Vol. I, p. 316, hereinafter cited as *Protokolle der Österreichischen Nationalversammlung*; Austria, Peace Delegation, *Bericht über die Tätigkeit der deutschösterreichischen Friedensdelegation in St. Germain-en-Laye* (2 vols., Deutschösterreichische Staatsdruckerei, 1919), Vol. I, pp. 1-3; hereinafter cited as *Bericht deutschösterreichischen Friedensdelegation*.

have to accept the responsibility for it."⁹ Austrian public opinion in general was just as acutely aware of the gravity of the situation. The editors of the *Arbeiter Zeitung*,¹⁰ the journal of the Social Democratic Party, declared: "This is probably the gravest hour that the German people has ever had to suffer or endure in its entire history." According to the *Neue Freie Presse*,¹¹ a newspaper which tried to maintain a neutral position between the two major parties, "The plenipotentiaries of German Austria will negotiate over life or death."

When the Austrians arrived in St. Germain, they discovered nothing calculated to raise their spirits. They were accorded a very cool reception, were shut off from the outside world in rather poorly furnished quarters, and were allowed to communicate with the conference only through written messages to Clemenceau.¹²

To make matters worse, the political situation which the Austrians faced after their arrival was quite bleak. By mid-May, it was openly rumored that the peace conference had already conceded the Brenner Pass frontier to Italy, and it was widely believed that Czechoslovakia had been granted the historic frontier of Bohemia and Moravia. In addition, it seemed certain that Austria was to lose much of Carinthia and Styria to Yugoslavia. In other words, it was common knowledge that Austria was to become a small, landlocked state of some six to seven million people and that three to four million Austrian Germans were, the principle of self-determination notwithstanding, to be placed under foreign rule. Even more important, it was well known on May 14 that the Allied Powers had forbidden *Anschluss* with Germany by inserting an article in the German treaty which forbade it, and that they apparently did not intend to attempt to create a Danubian confederation out of the successor states. All questions vital to Austria's future, therefore, had seemingly been adversely decided before the negotiations even began.¹³

When the conference finally presented the draft treaty on June 2, the Austrians found confirmation for all these rumors. The Czechs received not only the historic frontier of Bohemia and Moravia but a small part of

⁹ *Protokolle der österreichischen Nationalversammlung, 1919, Vol. I, p. 316.*

¹⁰ Issue of May 8, 1919.

¹¹ Issue of May 3, 1919, *Morgenblatt*.

¹² *Bericht der deutschösterreichischen Friedensdelegation, Vol. I, p. 3*; Franz Klein to his wife, St. Germain, May 13, 14, 18, 1919, MSS (Letters in the possession of an heir of Klein, Hofrat Dr. Otto Friedländer, Vienna); Franz Klein, *Austria and the Peace Treaty of St. Germain: A Guide to the Better Understanding and Criticism of the Treaty with Austria* (Vienna, Frisch and Company Publishers, 1920), p. 13; Marga Lammasch, "Eindrücke von St. Germain," *Reichspost* (Vienna), July 9, 1919, *Morgenblatt*; Interview of the author with Baron Johann A. Eichhoff, Vienna, June 28, 1954; Clemenceau to Renner, Paris, May 31, 1919, *Bericht der deutschösterreichischen Friedensdelegation, Vol. I, p. 36.*

¹³ Temperley, *Peace Conference, Vol. IV, pp. 390-392.*

Lower Austria as well; Italy got the Brenner frontier, including the historic province of South Tyrol; and the South Slavs received their extreme claims in Styria and Carinthia. The conference refused to grant the requests of the Germans in West Hungary for a plebiscite. Not only did the peacemakers deny *Anschluss*; they regarded the new Austria, which was to drop the name "German," as the heir of the Habsburgs and thus legally responsible for the heritage of the old empire.¹⁴

While outlining these provisions of the treaty to them, Clemenceau told the Austrians that they had fifteen days in which to make their answers. There were to be no oral negotiations, since all Austrian observations had to be in writing.¹⁵

In accepting the tentative peace terms, Chancellor Renner made it clear that in the view of his government and delegation the new Austria should not be the heir of the old monarchy:

[The] Danubian Monarchy, with which the Allied and Associated Powers were at war and with which they concluded the Armistice, has ceased to exist. The 12th November, 1918 may be regarded as the date of its disappearance. From that day onwards there was no longer a monarch, nor any Great Power for him to rule. . . . There only remained eight nations, bereft of all public organization, which at a day's notice, have created their own . . . Governments. . . . Our young Republic has been constituted in the same way as all the other States: it is, therefore, in no greater degree than they are, the successor of the former Monarchy.¹⁶

Although the Austrian delegates realized that their future lay in the hands of the victors and accepted Austria's share of the heritage of the past, they could not, according to Renner, accept more than their country's just share. He, therefore, pleaded for a recognition of the inalienable right of the Austrian people to free self-determination.¹⁷

Similar views were expressed in Vienna, where the reaction to the treaty was instantaneous and unmistakably clear. On June 3 and 4, when the terms became known in the Austrian capital, the city resounded with protests. On June 6, there was a large popular demonstration before the parliament building. The terms were branded as unacceptable in every quarter, and everyone came invariably to the same conclusion, that nothing could be worse than to sign the treaty. The bitterness of the first few days then gave way to despair and hopelessness, which the first outbursts of anger had

¹⁴ For the English text of this June 2 draft, see Almond and Lutz, *Treaty of St. Germain*, pp. 157-165. For the German and French texts, see *Bericht der deutschösterreichischen Friedensdelegation*, Vol. I, pp. 44-70.

¹⁵ Protocol of the Tenth Plenary Session, June 2, 1919, *Papers Relating to U.S. Foreign Relations*, Vol. III, pp. 424-427.

¹⁶ *Ibid.*, pp. 427-428.

¹⁷ *Ibid.*, pp. 427-430; Karl Renner, *Österreich von der ersten zur zweiten Republik* (Vienna, Verlag der Wiener Volksbuchhandlung, 1953), p. 26.

hidden.¹⁸ This feeling, combined with recent Bolshevik successes in Hungary, produced a renewal of Communist activity and the danger of an immediate revolution in Vienna. It also stimulated the *Anschluss* movement, since many people who had previously opposed union with Germany now said that the Austria established by the treaty could not exist and was not worth saving.¹⁹

The disappointment of the Viennese was the more acute since, for several weeks, rumors had circulated in Vienna to the effect that Austria might be able to retain all the German-speaking districts of the old empire. It was suggested that Austria might even be given generous terms because of the pleas allegedly being made in her behalf by the Allied missions in Vienna. Henri Allizé, of the French mission, for instance, had made it his particular business to quell Austrian demands for *Anschluss* by hinting that Austria would be well-treated at the conference if she would only renounce her desire for annexation to Germany. Since the first draft of the treaty proved all these rumors to be anything but true, the Viennese turned against the foreign missions with such a vengeance that they had to be guarded for fear of mob attacks, and the press referred to the staffs of the foreign missions as "those gentlemen who are sent by the Allies to Vienna to deceive us."²⁰

The reaction in the Viennese press was just as heated and just as denunciatory as the public throng for which it spoke. On June 3, the headlines of the *Neue Freie Presse* read: "Mourning colors must be hung out."²¹ On the next day, the editors declared that the treaty had "two godmothers: ignorance and malice."²²

The pages of *Arbeiter Zeitung* were also filled with lamentation. "They have taken everything, everything from us that could be taken; on every border . . . they have robbed us of Germans." On the one hand, "They have fallen upon weak German Austria and torn the living flesh from its body, without shame, without pity, without compassion," while, on the other hand, "The other successor states are to retain their economic independence, and we are bound to them." In addition to the loss of territory, we "are not allowed to be the Republic of German Austria, but shall bear the name of the non-existent, collapsed great power." The editors felt that there was

¹⁸ Franklin L. Parker, Jr. to A. C. Coolidge, Vienna, June 16, 1919, MS (Woodrow Wilson Papers, Library of Congress) File VIIIA, Box 63.

¹⁹ A. C. Coolidge to the American Commission to Negotiate Peace, Vienna, June 17, 1919, *ibid.* Also see Alonzo Taylor to Herbert Hoover, Vienna, June 9, 1919, *ibid.*

²⁰ Malcolm Bullock, *Austria, 1918-1938: A Study in Failure* (London, Macmillan and Company, Ltd., 1939), pp. 64-66; Franz Klein to his wife, St. Germain, June 3, 1919, MS (Friedländer Collection).

²¹ Issue of June 3, 1919, *Morgenblatt*.

²² *Ibid.*, June 4, 1919, *Morgenblatt*.

only one solution to this plight: "Out of the misery which is handed to us in this treaty there is only one escape, only one resurrection: that is to unite ourselves with the great German people. . . . The Entente must also perceive that, if they only desire to do so."²³

The editors of the *Reichspost*, the Christian Social organ, were just as indignant. In the issue of June 5,²⁴ they reported the decision of the Austrian public: "Unacceptable—that is the general judgment which the peace conditions have encountered."

The official reaction to the first treaty draft, as expressed in the National Assembly, echoed that of the populace and the press. When the Assembly met to debate the question on June 7, President Karl Seitz spoke heatedly against the treaty, declaring it the death sentence of Austria. All members, whether Social Democrat, Christian Social, or members of the *Grossdeutsch Vereinigung*, were equally strong in their condemnation.²⁵

The main speech of the session was made by Foreign Minister Otto Bauer. It was a long speech which was greeted with great enthusiasm by members of the assembly and which received general commendation by all the newspapers.²⁶ Bauer's argument was an eloquent and logical, yet simple, analysis. His purpose was to demonstrate through saneness and restraint that the draft treaty not only did injustice to Austria but was also not in the best interests of the Allies: "Our efforts today must be concentrated toward succeeding in the negotiations with the Allied and Associated Powers. And we shall succeed in that purpose only if we endeavor, difficult as it is, to analyze objectively, soberly, and without passion the conditions which are to be imposed upon us and . . . to furnish the proof that they exceed the boundaries of the clearly established self-interests of the victors."²⁷

Having thus stated his purpose, Bauer next considered the territorial demands made in the treaty, detailing those in both the north and south, and demonstrating how unjustifiable they all were when subjected to close scrutiny. In Czechoslovakia, for instance, the Allies were simply creating a new polyglot state very much like the old Austria-Hungary but without any of its advantages. Such a new polyglot state, Bauer predicted, "created by force can continue to exist only by force. . . ; its very existence must be a continual menace to the peace and liberty of the nations of the whole continent, as was the existence of the former Monarchy."²⁸ This policy would mean a complete repudiation of the principle of self-determination. The same was

²³ Issue of June 3, 1919.

²⁴ See *Morgenblatt*.

²⁵ *Protokolle der österreichischen Nationalversammlung*, 1919, Vol. I, pp. 515-536.

²⁶ Franklin L. Parker, Jr. to A. C. Coolidge, Vienna, June 16, 1919, MS (The Woodrow Wilson Papers, Library of Congress) File VIIIA, Box 63.

²⁷ *Protokolle der österreichischen Nationalversammlung*, 1919, Vol. I, pp. 515-516.

²⁸ *Ibid.*, p. 517.

true of the southern boundary, where German *irredenta* had been created all along the line in order to satisfy the claims of the Italians and the Yugoslavs.

After disposing of the territorial provisions, the second major point which Bauer made was a statement to the effect that union with Germany was the only salvation for German Austria, since, even if liberal concessions were made in the territorial provisions, Austria still could not exist as an effective state alone. Finally, as his third point, Bauer felt that the economic situation which would be created by the treaty would mean death for Austrian economic life. All these factors made the treaty totally and completely unacceptable.²⁹

Like other segments of Austrian public and private opinion, the response of the Austrian delegation itself was one of disillusionment and indignation. In answer to an Austrian journalist's request for a first impression of the treaty, Chancellor Renner replied: "We now comprehend why the German Austrian peace delegation is held in such confinement and why our neighbors [the Czechs and Yugoslavs] crowd around the statesmen and press of the Entente in such droves."³⁰ Another leading figure of the delegation, Franz Klein, wrote his wife: "Now it [the treaty] is out and the swindler Allizé is unmasked. This is only the first part of the peace conditions, but this part already presents hopelessness. In comparison, more land has been taken from us than from Germany." "One would like for it to be a wild, improbable dream if it were not so horribly true."³¹ Marga Lammasch, who accompanied her famous father to St. Germain, described the atmosphere at lunch after the June 2 presentation ceremony: "We sat at the table speechless. Only now and then the low, dull sounds of impassioned, embittered words broke the stillness of the room." She then added: "I must confess that seldom have I been so deeply shocked as by the experiences of this day."³²

After the initial stunning shock of the peace conditions, the members of the Austrian delegation began to prepare their written observations. In their answer, the delegation first protested against the impossible economic situation which the treaty would create in Austria. An Austria of six million people, with two million in the city of Vienna, would not have the economic resources to exist. "Every state, if it is to live, requires sufficient territory and the necessary material resources."³³ The members of the delegation urged the Allies to make a survey of Austrian resources, since they

²⁹ *Ibid.*, pp. 518-523.

³⁰ *Ibid.*, p. 532.

³¹ Franz Klein to his wife, St. Germain, June 3, 1919 MS (Friedländer Collection).

³² Marga Lammasch, "Eindrücke von St. Germain," *Reichspost* (Vienna), July 9, 1919, *Morgenblatt*.

³³ Renner to Clemenceau, St. Germain, June 10, 1919, *S-H Bulletin*, No. 356II, Almond and Lutz, *Treaty of St. Germain*, p. 204.

were sure it would prove that their country would not have these indispensable prerequisites for economic life under the present treaty terms.³⁴

Turning its attention to the territorial settlement in the June 2 treaty, the delegation took the position that since they accepted the Wilsonian principle of self-determination without qualification, they claimed sovereignty over no one who had not been a German in old Austria-Hungary. Furthermore, they desired no disputed territory in which the will of the people had not been clearly expressed in a free plebiscite:

German-Austria is far from desiring territorial expansion. . . . The German-Austrian people, however, wishes to maintain its native soil. It claims this right of justice from the Great Powers, for the Powers themselves are now deciding the destinies of mankind, and have proclaimed, through their most eminent statesmen the right of peoples to self-determination. . . . The will of the people . . . could be verified where doubtful cases occur through a plebiscite.³⁵

Since, however, the June 2 draft, in contradiction to these principles, assigned territories inhabited by four million Germans, without their consent, to other states, the Austrian delegation protested in the strongest possible terms: "The extent of territory and the number of inhabitants concerned are more than double the territory and population of Alsace-Lorraine. Whilst wishing to repair the wrong done to France in 1870-71, the Allied and Associated Powers are about to create a double Alsace."³⁶

In response to the Austrian protests, the peace conference made a few modifications in the June 2 draft. Since Wilson and Lloyd George left the conference on June 28 and Orlando resigned as Italian premier on June 19, a body known as the Council of Heads of Delegations, the membership on which varied greatly from time to time, heard the Austrian protests and revised the first draft slightly. The revised draft of the treaty was transmitted to the Austrian delegation on July 20, and the Austrian representatives again submitted written comments on the document. Since the changes made were not great, the Austrian reaction was approximately the same as after June 2. After deciding to make virtually no changes in this second draft, the conference presented the final text to the Austrians on September 2.

At this point, regardless of what the Austrian people and their government might have thought of the treaty, the government now had to decide whether to sign the document or not. The scene in the National Assembly

³⁴ *Ibid.*, 204-209; *Bericht der deutschösterreichischen Friedensdelegation*, Vol. I, pp. 74-80.

³⁵ Renner to Clemenceau, St. Germain, June 16, 1919, *S-H Bulletin*, No. 383, Almond and Lutz, *Treaty of St. Germain*, pp. 281-282.

³⁶ Renner to Clemenceau, St. Germain, June 15, 1919, *S-H Bulletin*, No. 380, *Ibid.*, 449-450.

on September 6 was very grave. Johann N. Hauser, president of the Assembly committee which examined the treaty, expressed the fateful resignation which characterized the consensus of opinion:

It is a very grave moment when a man is called upon to sign the death-warrant for another man. It is still graver when he has to sign his own death-warrant, and this is our position today. I will say frankly, and we must continue to declare it, that even if we sign we shall not be in a position to fulfill everything. . . . Our situation is terrible. But have we any choice? Is it possible for us to do to-day what we desire to do? We need the Entente, and since we need the Entente we are obliged to sign. We shall sign, therefore, even though our hand finds it hard to take the pen. But we call the whole world to witness, we cry to all the world that we are being subjected to force, and that we had no choice but to act as we have done.³⁷

Taking the advice of Hauser, the National Assembly authorized Chancellor Renner and his delegation to accept the treaty by a vote of ninety-seven to twenty-three, and they formally signed the treaty on September 10, 1919.

Thus, the ship of state of the new Republic of Austria, along with the other successors of the Austrian Empire, was launched on a rather tenuous course, a course for which the Republic of Austria, as the Austrians had insisted, was more poorly equipped than any of the others. The peace settlement of 1919 proved to be only an armistice, and, as Austrian public opinion had suspected, neither the Alpine republic nor its former sister provinces was able to withstand the buffeting of the political winds which lay ahead. Although it mixes a metaphor, Churchill has stated it quite well: "There is not one of the peoples or provinces that constituted the Empire of the Hapsburgs to whom gaining their independence has not brought the tortures which ancient poets and theologians reserved for the damned."³⁸

³⁷ *Protokolle der österreichischen Nationalversammlung, 1919, Vol. I, p. 767.*

³⁸ Churchill, *The Gathering Storm*, p. 10.

Marital Happiness and the Two-Income Family

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ONE OF THE STRIKING TRENDS in the American family today is the wife's sharing of the family-provider role with her husband.¹ There is much speculation but, as yet, little knowledge based on research about how employment of the wife may be affecting the marital adjustment of the couple. Does it tend to make for tensions and unhappiness in the marriage? Or does it perhaps contribute to happiness in certain ways?

The literature reveals mixed opinions and some mixed findings on the question.

In the 1920's Katherine Davis² found a slight negative correlation between marital happiness and the wife's working.

In a study done in the early 1930's, Cecile T. La Follette found that working wives felt that their employment had helped make their marriages happier by "lessening the economic strain on their husbands," and by making them (the wives) "more stimulating companions for their husbands."³

In the mid-1950's Deborah S. Kligler found that working-wife couples tended to have more tensions and disagreements than nonworking-wife couples, especially in the areas of family finances and in caring for the home.⁴ On the other hand, in the working-wife families both the husband and wife felt that the wife's employment improved her companionship with her husband and thus contributed to their marital happiness.⁵

¹ In March, 1957, 30.8 per cent of all married women in the United States were in the civilian labor force. *Current Population Reports—Labor Force*, Series P-50, No. 76 (Washington, D.C., U.S. Government Printing Office, November, 1957), Table 1. For fuller discussion of this trend, see Everett D. Dyer, "Some Trends in Two-Income Middle-Class Urban Families," *SOUTHWESTERN SOCIAL SCIENCE QUARTERLY* (September, 1958), pp. 125-132.

² Katherine Davis, *Factors in the Sex Life of Twenty-Two Hundred Women* (New York, Harper and Brothers, 1929), p. 43.

³ Cecile T. La Follette, "A Study of the Problems of 625 Gainfully Employed Married Homemakers" (unpublished Ph.D. dissertation, Columbia University, 1934), pp. 166-167.

⁴ Deborah S. Kligler, "The Effects of Employment of Married Women on Husband and Wife Roles: A Study in Culture Change" (unpublished Ph.D. dissertation, Yale University, 1954), pp. 179-199.

⁵ *Ibid.*, pp. 155-158.

In one of the few studies undertaken to find some relationship between full-time employment of the wife and marital adjustment, Harvey J. Locke and Muriel Mackprang compared the marital adjustments scores of two matched samples of married couples; one in which the wife was employed full-time, and the other in which the wife was not employed.⁶ The results showed that there were no significant differences between the marital adjustment of the employed wives and their husbands and that of strictly homemaking wives and their husbands.

As William J. Goode points out, one can reason in either direction, with respect to the impact of the employment of the wife on the marriage.⁷ In a society where more and more women are receiving higher education and are motivated to have a career, the wife may very likely be happier if she works, and many such women who do not work may feel that their family roles do not give them sufficient challenge or scope for their talents. On the other hand, the wife's employment may create problems in the marriage, since few husbands are willing to assume an equal share of the responsibilities for the housework (or homemaking). Also, as Ruth Cavan notes, the husband may feel that his wife's employment represents a threat to his status in the family (and possibly in the community, too).

Procedure

The present study entailed an attempt to find some of the internal family conditions under which middle-class, urban-dwelling employed wives and their husbands are happy (or less happy) in marriage. The sample comprised 129 working couples living in Madison, Wisconsin, in 1954. Certain occupational and educational levels were used as criteria for middle-class position.⁸ To measure the degree of happiness in the marriage, a modification of Locke's self-rating marital happiness scale was employed.⁹

Marital happiness was correlated with these variables: (1) role performances of the husband and wife in selected areas of family life (e.g., homemaking, social participation, and family financing); (2) role expectations of the husband, and of the wife, in these same areas; (3) family authority patterns; (4) authority expectations of the husband, and of the wife; and (5) the wife's employment record before and after marriage, and her work-expectancy.¹⁰

⁶ Harvey J. Locke and Muriel Mackprang, "Marital Adjustment and the Employed Wife," *American Journal of Sociology*, LIV (1949), pp. 536-538.

⁷ William J. Goode, *After Divorce* (Glencoe, The Free Press, 1956), p. 72.

⁸ For further discussion of sample characteristics, see Dyer, *op. cit.*, p. 126.

⁹ Harvey J. Locke, *Predicting Adjustment in Marriage* (New York, Henry Holt & Co.), 1951, p. 374.

¹⁰ In measuring and analyzing the role and authority patterns and expectations, an essentially typological method was employed which yielded a distribution of the families on each variable along a continuum, which was subdivided into five equal-spaced categories:

Findings

1. *Marital Happiness and Role Patterns.*—It was reasoned that marital happiness would be greatest where the sharing of family roles by husband and wife was most apparent. Since the wife was now sharing the family-provider role with her husband, it seemed likely that his willingness to share the homemaker role with her would be conducive to marital happiness. And it appeared likely that those marriages would be happier where a greater degree of companionship and sharing was found in social, recreational, and other leisure-time activities.

The findings amply supported the hypothesis that marital happiness ratings would be higher for couples whose role patterns were most democratic or partnership in nature. The Chi-square test indicates a significantly greater proportion of very happy marriages in the partnership classification than in the traditional classification (Table 1). Sixty-five per cent of the couples in the partnership category were very happily married, while only 21 per cent of those in the traditional category were very happily married. This suggests that a sharing of other family roles and numerous interests by the husband and wife is conducive to good marital adjustment in families where the wife and husband are co-partners in the family-provider role.

2. *Marital Happiness and Authority Patterns.*—Was there any relationship between marital happiness and the manner in which authority was allocated and exercised in these families? Current literature reveals a general trend toward more equalitarian authority-patterns in the middle-class American family. As American women have been gaining in status in the community and the larger society, so also have they been gaining in status in the family. The American middle-class wife whose functions and authority are limited or bounded by the traditional "3 K's" is becoming a rarity indeed, as is the middle-class husband who conforms to the traditional patriarchal type. It seemed especially likely that equalitarian authority-patterns would be found in middle-class families where the wife had now become a breadwinner. And it seemed logical to expect that those couples would be happier where the more equalitarian patterns prevailed—in making family policies, family decisions, and in settling differences and disagreements between husband and wife.

The data amply supported this hypothesis. Seventy per cent of the families in the equalitarian category rated their marriages as very happy. On the other hand, only 19 per cent of the couples in the combined traditional and intermediate groupings rated their marriages as very happy (Table 1).

highly traditional, moderately traditional, intermediate, moderately partnership-equalitarian, and highly partnership-equalitarian.

Chi-square test shows this difference to be significant at the .05 per cent level.

3. *Marital Happiness and Role and Authority Expectations.*—Thus far we have been concerned with the relationship between marital happiness and the manner in which roles are actually performed and authority actually carried out. Next to be investigated were possible relationships between marital happiness and the conceptions or expectations held by the husband and wife as to how family roles *should* be performed and authority exercised.

It was reasoned that those couples would be happier where the husband and the wife held essentially partnership role-expectations and equalitarian authority-expectations. It seemed logical that working couples who held partnership-equalitarian beliefs would be better able to establish a happy marriage than would be the case where one or both partners held pronouncedly traditional conceptions of "woman's place" or "man's place" in the family.

It was further reasoned that there would be a positive relationship between marital happiness and the agreement or consistency of the role and authority expectations of the husband and wife. That is, it was felt that those marriages would be happier where the husband and wife saw eye to eye on matters of family role and authority distribution and exercise.

It would be quite understandable if differences in attitudes between husband and wife were to be found in families where the wife is employed. In this new situation, husbands and wives would probably differ somewhat in their feelings about what is a fair and proper redistribution of responsibilities, tasks, and "voice" in family matters. The husband, it may be argued, would likely be more inclined to retain the more traditional views of "man's place" and "woman's place" in the family since he has a deeper ego-involvement in the traditional status and role structure, and he probably stands to lose in status when any changes are made. On the other hand, the wife stands to gain both in status and independence from any changes in the direction of democratic or equalitarian division of labor, privileges, and authority.

Findings

Marital Happiness and the Husband's Role and Authority Expectations.—As expected, a significant relationship was found between marital happiness and both the partnership role-expectations and the equalitarian authority-expectations of the husband. Of the husbands holding partnership role-expectations, 67.5 per cent were very happy in their marriages; while only 10.5 per cent of the husbands clinging to traditional role expectations were in the happily married group (Table 1). With respect to authority ex-

TABLE 1

Percentage Status of Marital Happiness by Role-Performance Patterns, Authority-Patterns, Husband's and Wife's Role and Authority-Expectations, in 129 Two-Income Families

	Percentage		Average and	Chi Square
	Very Happy	Happy	Unhappy	
<i>Role-Performance Patterns</i>				
Traditional	21	42	37	X ² = 15.395 d.f. = 4 Significant at 0.05
Intermediate	54	21	25	
Partnership	65	29	6	
<i>Authority Patterns</i>				
Traditional and intermediate	19	24	57	X ² = 21.439 d.f. = 4 Significant at 0.05
Moderately equalitarian	51	31	18	
Highly equalitarian	70	20	10	
<i>Husband's Role-Expectations</i>				
Traditional	10.5	32	57.5	X ² = 23.164 d.f. = 4 Significant at 0.05
Intermediate	51.5	27	21.5	
Partnership	67.5	25	7.5	
<i>Husband's Authority-Expectations</i>				
Traditional and intermediate	10	20	70	X ² = 31.4196 d.f. = 4 Significant at 0.05
Moderately equalitarian	54	31.5	14.5	
Highly equalitarian	66.5	21.5	12	
<i>Wife's Role-Expectations</i>				
Traditional	18	45.5	36.5	X ² = 12.627 d.f. = 4 Significant at 0.05
Intermediate	44	26.5	29.5	
Partnership	66	24	10	
<i>Wife's Authority-Expectations</i>				
Traditional, intermediate and moderately equalitarian	46	29.5	24.5	X ² = 7.7982 d.f. = 2 Significant at 0.05
Highly equalitarian	62	20.5	17.5	

pectations, 66.5 per cent of the husbands in the highly equalitarian category were very happy in marriage; while only 10 per cent of the husbands in the combined intermediate and traditional categories were very happy in marriage (Table 1). In both instances the difference is significant by the Chi-square test.

Marital Happiness and the Wife's Role and Authority Expectations.—For the wives also the hypotheses were supported by the data. Marital happiness ratings were significantly higher for couples where the wife held partnership role expectations and equalitarian authority-expectations.

Sixty-six per cent of the wives who held partnership role-expectations were very happily married, while only 18 per cent of those who were traditional in their role expectations were very happily married (Table 1). As for authority expectations, 62 per cent of the wives in the highly equalitarian grouping were very happy in their marriages, while 46 per cent of those wives in the combined traditional, intermediate, and moderately-equalitarian classifications were very happy in marriage (Table 1).

The findings suggest that working couples are more apt to achieve happiness in marriage where both husband and wife have attitudes conducive to a democratic sharing of family roles and authority.

Marital Happiness and Consistency of the Husband's and the Wife's Expectations.—Marital happiness was related separately to (1) the consistency of the role expectations of the marriage partners, and (2) to the consistency of their authority expectations. The data supported the hypotheses on both scores. Those marriages were happier where the husband and wife were in closest agreement on both role and authority expectations. Fifty-eight per cent of the couples who were in complete agreement regarding role expectations were very happily married; whereas 40 per cent of the couples who were in moderate agreement or disagreement were very happily married (Table 2). As to authority expectations, 59 per cent of the husbands and wives who were in complete agreement were very happy, while only 30 per cent who were in moderate agreement or disagreement were very happily married (Table 2). These differences are significant by the Chi-square test.

The findings suggest that for working-wife couples to achieve marital happiness, it may be important that the husband and wife have quite similar conceptions of how family roles should be played and authority exercised. This, of course, is quite likely to be true in any marriage, but in families where the wife is employed and various other family roles are being reshuffled, it seems quite likely that discrepancies would exist between the expectations of the husband and wife. Thus, for these couples to achieve agreement on such matters may require more "working-at" than would be the

case for more orthodox couples. And, if agreement is not reached, happiness may be difficult to achieve.

4. *Marital Happiness and the Wife's Work-Expectancy.*—It was hypothesized that marital happiness would be greater if the wife considered her employment as relatively permanent rather than a temporary activity.

The data did not support this notion, however (Table 2). Marriages were no less happy where the wife worked only temporarily or was uncertain as to her work-expectancy than were marriages where the wife planned to work permanently or until retirement.

TABLE 2

Percentage Status of Marital Happiness by Consistency of Husband-Wife Role-Expectations and Authority-Expectations, Wife's Work-Expectancy, and Wife's Employment Record in 129 Two-Income Families

	Percentage			Chi Square
	Very Happy	Happy	Average and Unhappy	
<i>Agreement on Role-Expectations</i>				
Complete agreement	58	26	16	$X^2 = 9.7696$ d.f. = 2 Significant at 0.05
Moderate agreement and disagreement	40	29	31	
<i>Agreement on Authority-Expectations</i>				
Complete agreement	59	27	14	$X^2 = 21.0995$ d.f. = 2 Significant at 0.05
Moderate agreement and disagreement	30	27	43	
<i>Wife's Work-Expectancy</i>				
Permanent	40	30	30	$X^2 = 6.693$ d.f. = 4 Not significant at 0.05
While interested	62.5	21	16.5	
Uncertain or temporary	52	27.5	20.5	
<i>Wife's Employment before Marriage</i>				
Full-time, regular	48.5	31	20.5	$X^2 = 4.609$ d.f. = 2 Not significant at 0.05
Part-time, irregular, and not employed	59	9	32	
<i>Wife's Employment since marriage</i>				
Full-time, regular	57	28	15	$X^2 = 5.6901$ d.f. = 2 Not significant at 0.05
Part-time and irregular	42	25	33	

5. *Marital Happiness and the Wife's Work Record before and after Marriage.*—It was reasoned that couples who had long been accustomed to the wife's being employed would be better adjusted than couples where the wife had been irregularly employed or was newly employed. The findings did not support this notion either. In instances where the wife had had regular and full-time employment before marriage or since, the marriages were no happier than those where the wife had not been employed or had been irregularly employed before marriage, or where the wife had had only irregular or part-time employment since marriage (Table 2).

Conclusions

1. This study suggests that marital happiness in the two-income family, in the population from which the sample was drawn, is to some degree contingent upon the extent to which the couple have become partnership-equalitarian with respect to family roles and authority patterns; i.e., chances of marital happiness seem better where the husband and wife have become partners in other areas of family life, as well as in family providing, and where each has an equal voice in most family affairs.

2. The findings suggest that marital happiness in this population is contingent to some degree upon the husband and wife having achieved an essential emancipation from traditional conceptions or views of "man's place" and "woman's place" in the family.

3. Furthermore, the data suggest that the chances for marital happiness in the two-income family are greater where there is close agreement between the expectations of the husband and wife as to the way family roles should be performed and the way authority should be allocated and exercised.

